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PROTEIN-PROTEIN INTERACTIONS
Between *Shigella flexneri* polypeptides And Mammalian Polypeptides

PRIORITY

[0001] This application claims priority on the basis of United States Provisional Application No. 60/261,130, filed January 12, 2001, the contents of which are hereby incorporated by reference.

BACKGROUND OF THE INVENTION

[0002] Most biological processes involve specific protein-protein interactions. Protein-protein interactions enable two or more proteins to associate. A large number of non-covalent bonds form between the proteins when two protein surfaces are precisely matched. These bonds account for the specificity of recognition. Thus, protein-protein interactions are involved, for example, in the assembly of enzyme subunits, in antibody-antigen recognition, in the formation of biochemical complexes, in the correct folding of proteins, in the metabolism of proteins, in the transport of proteins, in the localization of proteins, in protein turnover, in first translation modifications, in the core structures of viruses and in signal transduction.

[0003] General methodologies to identify interacting proteins or to study these interactions have been developed. Among these methods are the two-hybrid system originally developed by Fields and co-workers and described, for example, in U.S. Patent Nos. 5,283,173, 5,468,614 and 5,667,973, which are hereby incorporated by reference.

[0004] The earliest and simplest two-hybrid system, which acted as basis for development of other versions, is an *in vivo* assay between two specifically constructed proteins. The first protein, known in the art as the "bait protein" is a chimeric protein which binds to a site on DNA upstream of a reporter gene by means of a DNA-binding domain or BD. Commonly, the binding domain is the DNA-binding domain from either Gal4 or native *E. coli* LexA and the sites placed upstream of the reporter are Gal4 binding sites or LexA operators, respectively.

[0005] The second protein is also a chimeric protein known as the "prey" in the art. This second chimeric protein carries an activation domain or AD. This activation domain is typically derived from Gal4, from VP16 or from B42.

[0006] Besides the two hybrid systems, other improved systems have been developed to detected protein-protein interactions. For example, a two-hybrid plus one system was developed that allows the use of two proteins as bait to screen available cDNA libraries to detect a third partner. This method permits the detection between proteins that are part of a larger protein complex such as the RNA polymerase II holoenzyme and the TFIIH or TFIID complexes. Therefore, this method, in general, permits the detection of ternary complex

formation as well as inhibitors preventing the interaction between the two previously defined fused proteins.

[0007] Another advantage of the two-hybrid plus one system is that it allows or prevents the formation of the transcriptional activator since the third partner can be expressed from a conditional promoter such as the methionine-repressed Met25 promoter which is positively regulated in medium lacking methionine. The presence of the methionine-regulated promoter provides an excellent control to evaluate the activation or inhibition properties of the third partner due to its "on" and "off" switch for the formation of the transcriptional activator. The three-hybrid method is described, for example in Tirode et al., *The Journal of Biological Chemistry*, **272**, No. 37 pp. 22995-22999 (1997). incorporated herein by reference.

[0008] Besides the two and two-hybrid plus one systems, yet another variant is that described in Vidal et al, *Proc. Natl. Sci. 93* pgs. 10315-10320 called the reverse two- and one-hybrid systems where a collection of molecules can be screened that inhibit a specific protein-protein or protein/DNA interactions, respectively.

[0009] A summary of the available methodologies for detecting protein-protein interactions is described in Vidal and Legrain, *Nucleic Acids Research* Vol. 27, No. 4 pgs.919-929 (1999) and Legrain and Selig, FEBS Letters 480 pgs. 32-36 (2000) which references are incorporated herein by reference.

[0010] However, the above conventionally used approaches and especially the commonly used two-hybrid methods have their drawbacks. For example, it is known in the art that, more often than not, false positives and false negatives exist in the screening method. In fact, a doctrine has been developed in this field for interpreting the results and in common practice an additional technique such as co-immunoprecipitation or gradient sedimentation of the putative interactors from the appropriate cell or tissue type are generally performed. The methods used for interpreting the results are described by Brent and Finley, Jr. in *Ann. Rev. Genet., 31 pgs. 663-704 (1997).* Thus, the data interpretation is very questionable using the conventional systems.

[0011] One method to overcome the difficulties encountered with the methods in the prior art is described in WO 99/42612, incorporated herein by reference. This method is similar to the two-hybrid system described in the prior art in that it also uses bait and prey polypeptides. However, the difference with this method is that a step of mating at least one first haploid recombinant yeast cell containing the prey polypeptide to be assayed with a second haploid recombinant yeast cell containing the bait polynucleotide is performed. Of course the person skilled in the art would appreciate that either the first recombinant yeast cell or the second recombinant yeast cell also contains at least one detectable reporter gene that is activated by a polypeptide including a transcriptional activation domain.

[0012] The method described in WO 99/42612 permits the screening of more prey polynucleotides with a given bait polynucleotide in a single step than in the prior art systems due to the cell to cell mating strategy between haploid yeast cells. Furthermore, this method is more thorough and reproducible, as well as sensitive. Thus, the presence of false negatives and/or false positives is extremely minimal as compared to the conventional prior art methods.

[0013] The genus *Shigella* includes four species (major serogroups): *S. dysenteriae* (Grp. A), *S. flexneri* (Grp. B), *S. boydii* (Grp. C) and *S. sonnei* (Grp. D) as classified in Bergey's Manual for Systematic Bacteriology (N. R. Krieg, ed., pp. 423-427 (1984)). The genera *Shigella* and *Escherichia* are phylogenetically closely related. Brenner and others have suggested that the two are more correctly considered sibling species based on DNA/DNA reassociation studies (D. J. Brenner et al., International J. Systematic Bacteriology, 23:1-7 (1973)). These studies showed that *Shigella* species are on average 80-89% related to *E. coli* at the DNA level. Also, the degree of relatedness between *Shigella* species is on average 80-89%.

[0014] The genus *Shigella* is pathogenic in humans; it causes bacillary dysentery at levels of infection of 10 to 100 organisms.

[0015] Shigellosis or bacillary dysentery is a disease that is endemic throughout the world. The disease presents a particularly serious public health problem in tropical regions and developing countries where *Shigella dysenteriae* and *S. flexneri* predominate. In industrialized countries, the principal etiologic agent is *S. sonnei* although sporadic cases of shigellosis are encountered due to *S. flexneri*, *S. boydii* and certain entero-invasive *Escherichia coli*.

[0016] The primary step in the pathogenesis of bacillary dysentery is invasion of the human colonic mucosa by *Shigella* (Labrec, E. H., H. Schneider, T. J. Magnani, and S. B. Formal. 1964. Epithelial cell penetration as an essential step in the pathogenesis of bacillary dysentery. J. Bacteriol. 88:1503). Mucosal invasion encompasses several steps which include penetration of the bacteria into epithelial cells, intracellular multiplication, killing of host cells, and final spreading to adjacent cells and to connective tissue (Formal, S. B., T. L. Hale, and P. J. Sansonetti. 1983. Invasive enteric pathogens. Rev. Infect. Dis. 5:S702, Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of Shigella diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Takeuchi, A., H. Spring, E. H. LaBrec, and S. B. Formal. 1965. Experimental acute colitis in the Rhesus monkey following peroral infection with Shigella flexneri. Am. J. Pathol. 52:503, Takeuchi, A. 1967. Electron microscope studies of experimental Salmonella infection. I. Penetration into cells of the intestinal epithelium by Salmonella typhimurium. Am. J. Pathol. 47:1011). The overall process which is usually

limited to the mucosal surface leads to a strong inflammatory reaction which is responsible for abscesses and ulcerations (Labrec, E. H., H. Schneider, T. J. Magnani, and S. B. Formal. 1964. Epithelial cell penetration as an essential step in the pathogenesis of bacillary dysentery. J. Bacteriol. 88:1503., Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of Shigella diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Takeuchi, A., H. Spring, E. H. LaBrec, and S. B. Formal. 1965. Experimental acute colitis in the Rhesus monkey following peroral infection with Shigella flexneri. Am. J. Pathol. 52:503).

[0017] Even though dysentery is characteristic of shigellosis, it may be preceded by watery diarrhea. Diarrhea appears to be the result of disturbances in colonic reabsorption and increased jejunal secretion whereas dysentery is a purely colonic process (Kinsey, M. D., S. B. Formal, G. J. Dammin, and R. A. Giannella. 1976. Fluid and electrolyte transport in Rhesus monkeys challenged intraceacally with Shigella flexneri 2a. Infect. Immun. 14:368). These include toxic megacolon, leukemoid reactions and hemolytic-uremic syndrome ("HUS"). The latter is a major cause of mortality from shigellosis in developing areas (Gianantonio, C., H. Vitacco, F. Mendilaharzu, A. Rutty, and J. Mendilaharzu. 1964. The hemolytic-uremic syndrome. J. Pediatr. 64:478, Koster, F., J. Levin, L. Walker, K. S. K. Tung, R. H. Gilman, M. M. Rajaman, M. A. Majid, S. Islam, and R. C. Williams Jr. 1977. Hemolyticuremic syndrome after shigellosis. Relation to endotoxin and circulating immune complexes. N. Engl. J. Med. 298:927).

[0018] The role of Shiga-toxin produced at high level by *S. dysenteriae* 1 (Conradi, H., 1903. Ueber loshlishe, durch aseptische Autolyse, erhaltene Giftstoffe von Ruhr--un Typhus bazillen. Dtsch. Med. Wochenschr. 29:26) and Shiga-like toxins ("SLT") produced at low level by *S. flexneri* and *S. sonnei* (Keusch, G. T., and M. Jacewicz. 1977. The pathogenesis of *Shigella* diarrhea. VI. Toxin and antitoxin in *Shigella flexneri* and *Shigella sonnei* infections in humans. J. Infect. Dis. 135:552) in the four major stages of shigellosis (i.e., invasion of individual epithelial cells, tissue invasion, diarrhea and systemic symptoms) is not well understood. For review see O'Brien and Holmes (O'Brien, A. D., and R. K. Holmes. 1987. Shiga and Shiga-like toxins. Microbiol. Rev. 51:206). Plasmids of 180-220 kilobases ("kb") are essential in all *Shigella* species for invasion of individual epithelial cells (Rout, W. R., S. B. Formal, R. A. Giannella, and G. J. Dammin. 1975. The pathophysiology of *Shigella* diarrhea in the Rhesus monkey; intestinal transport, morphology and bacteriological studies. Gastroenterology 68:270, Sansonetti, P. J., D. J. Kopecko, and S. B. Formal. 1981. *Shigella sonnei* plasmids: evidence that a large plasmid is neceessary for virulence. Infect. Immun. 34:75, Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. Infect. Immun. 39:1392). This

includes entry, intracellular multiplication and early killing of host cells (Clerc, P., A. Ryter, J. Mounier, and P. J. Sansonetti. 1987. Plasmid-mediated early killing of eucaryotic cells by Shigella flexneri as studied by infection of J774 macrophages. Infect. Immun. 55:521, Clerc, P., and P. J. Sansonetti. 1987. Entry of *Shigella flexneri* into HeLa cells: Evidence for directed phagocytosis involving actin polymerization and myosin accumulation. Infect. Immun. 55:2681). The role of Shiga-toxin and SLT at this stage is unclear.

[0019] Recent evidence indicates that Shiga-toxin is cytotoxic for primary cultures of human colonic cells (Moyer, M. P., P. S. Dixon, S. W. Rothman, and J. E. Brown. 1987. Cytotoxicity of Shiga toxin for human colonic and ileal epithelial cells. Infect. Immun. 55:1533). Tissue invasion requires additional chromosomally encoded products among which are smooth lipopolysaccharides ("LPS") (Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. Infect. Immun. 39:1392), the non-characterized product of the Kcp locus, and aerobactin. A region of the *S. flexneri* chromosome necessary for fluid production in rabbit ileal loops has been localized to the rha-mt1 regions and near the lysine decarboxylase locus (Sansonetti, P. J., T. L. Hale, G. I. Dammin, C. Kapper, H. H. Collins Jr., and S. B. Formal. 1983. Alterations in the pathogenesis of *Escherichia coli* K12 after transfer of plasmids and chromosomal genes from *Shigella flexneri*. Infect. Immun. 39:1392). However, no evidence has been adduced to show that the ability to cause fluid accumulation is due to the SLT of *S. flexneri*. Thus, the role of Shiga-toxin in causing the systemic complications of shigellosis is still hypothetical. However, Shiga-toxin can mediate vascular damage since capillary lesions observed in HUS resemble those observed in cerebral vessels of animals injected with this toxin (Bridgewater, F. A. I., R. S. Morgan, K. E. K. Rowson, and G. P. Wright. 1955. the neurotoxin of Shigella shigae. Morphological and functional lesions produced in the central nervous system of rabbits. Br. J. Exp. Pathol. 36: 447, Cavanagh, J. B., J. G. Howard, and J. L. Whitby. 1956. The neurotoxin of *Shigella shigae*. A comparative study of the effects produced in various laboratory animals. Br. J. Exp. Med. 37:272).

[0020] As described before, the genera of *Shigella* and *Escherichia* are phylogenetically closely related. Furthermore, the pathogenesis of enteroinvasive *E. coli* is very similar to that of *Shigella*. In both, dysentery results from invasion of the colonic epithelial cells followed by intracellular multiplication which leads to bloody, mucous discharge with scanty diarrhea.

[0021] Pathogenic *E. coli* serotypes are collectively referred to as Enterovirulent *E. coli* (EVEC) (J. R. Lupski, et al., J. Infectious Diseases, 157:1120-1123 (1988); M. M. Levine, J. Infectious Diseases, 155:377-389 (1987); M. A. Karmali, Clinical Microbiology Reviews, 2:15-38 (1989)). This group includes at least 5 subclasses of *E. coli*, each having a

characteristic pathogenesis pathway resulting in diarrheal disease. The subclasses include Enterotoxigenic *E. coli* (ETEC), Verotoxin-Producing *E. coli* (VTEC), Enteropathogenic *E. coli* (EPEC), Enteroadherent E. coli (EAEC) and Enteroinvasive E. coli (EIEC). The VTEC include Enterohemorrhagic *E. coli* (EHEC) since these produce verotoxins.

[0022] Thus, detection of *Shigella* and EIEC is important in various medical contexts. For example, the presence of either *Shigella* or EIEC in stool samples is indicative of gastroenteritis, and the ability to screen for their presence is useful in treating and controlling that disease. Detection of *Shigella* or EIEC in any possible transmission vehicle such as food is also important to avoid spread of gastroenteritis.

[0023] That is why there is a great need to construct Protein Interaction Map between *Shigella* polypeptides and human polypeptides in order to understand mechanisms of *Shigella* pathogenesis and to identify drug target to treat *Shigella* associated diseases and *Shigella* detection means.

SUMMARY OF THE PRESENT INVENTION

[0024] Thus, it is an object of the present invention to identify protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

[0025] It is another object of the present invention to identify protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides for the development of more effective and better targeted therapeutic applications.

[0026] It is yet another object of the present invention to identify complexes of polypeptides or polynucleotides encoding the polypeptides and fragments of the polypeptides of *Shigella* genus and polypeptides and fragments of the polypeptides of mammals, preferably human.

[0027] It is yet another object of the present invention to identify antibodies to these complexes of polypeptides or polynucleotides encoding the polypeptides and fragments of the polypeptides of *Shigella* genus and mammals, preferably human, including polyclonal, as well as monoclonal antibodies that are used for detection.

[0028] It is still another object of the present invention to identify selected interacting domains of the polypeptides, called SID® polypeptides.

[0029] It is still another object of the present invention to identify selected interacting domains of the polynucleotides, called SID® polynucleotides.

[0030] It is another object of the present invention to generate protein-protein interactions maps called PIM®s.

[0031] It is yet another object of the present invention to provide a method for screening drugs for agents which modulate the interaction of proteins and pharmaceutical compositions that are capable of modulating the protein-protein interactions between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

[0032] It is another object to administer the nucleic acids of the present invention via gene therapy.

[0033] It is yet another object of the present invention to provide protein chips or protein microarrays.

[0034] It is yet another object of he present invention to provide a report in, for example paper, electronic and/or digital forms, concerning the protein-protein interactions, the modulating compounds and the like as well as a PIM®.

[0035] Thus the present invention, in one aspect thereof, relates to a protein complex between a *Shigella* polypeptide and a mammalian polypeptide. In another embodiment, the Shigella and the mammalian polypeptides are polypeptides set forth on columns 1 and 3 respectively of Table II.

[0036] Furthermore, the present invention provides SID® polynucleotides and SID® polypeptides of Table III, as well as a PIM® between *Shigella* polypeptides and mammalian, preferably human, polypeptides.

[0037] The present invention also provides antibodies to the protein-protein complexes between *Shigella* polypeptides and mammal, preferably human, polypeptides.

[0038] In another embodiment the present invention provides a method for screening drugs for agents that modulate the protein-protein interactions and pharmaceutical compositions that are capable of modulating protein-protein interactions.

[0039] In another embodiment the present invention provides protein chips or protein microarrays.

[0040] In yet another embodiment the present invention provides a report in, for example, paper, electronic and/or digital forms.

BRIEF DESCRIPTION OF THE DRAWINGS

[0041] Fig. 1 is a schematic representation of the pB1 plasmid.

[0042] Fig. 2 is a schematic representation of the pB5 plasmid.

[0043] Fig. 3 is a schematic representation of the pB6 plasmid.

[0044] Fig. 4 is a schematic representation of the pB13 plasmid.

[0045] Fig. 5 is a schematic representation of the pB14 plasmid.

[0046] Fig. 6 is a schematic representation of the pB20 plasmid.

[0047] Fig. 7 is a schematic representation of the pP1 plasmid.

[0048] Fig. 8 is a schematic representation of the pP2 plasmid.

[0049] Fig. 9 is a schematic representation of the pP3 plasmid.

[0050] Fig. 10 is a schematic representation of the pP6 plasmid.

[0051] Fig. 11 is a schematic representation of the pP7 plasmid.

[0052] Fig. 12 is a schematic representation of vectors expressing the T25 fragment.

[0053] Fig. 13 is a schematic representation of vectors expressing the T18 fragment.

[0054] Fig. 14 is a schematic representation of various vectors of pCmAHL1, pT25 and pT18.

[0055] Fig. 15 is a schematic representation of identification of SID®. In this figure the "Full-length prey protein" is the Open Reading Frame (ORF) or coding sequence (CDS) where the identified prey polypeptides are included. The Selected Interaction Domain (SID®) is determined by the commonly shared polypeptide domain of every selected prey fragment.

[0056] Fig. 16 is a protein map (PIM®).

DETAILED DESCRIPTION OF THE INVENTION

[0057] As used herein the terms "polynucleotides", "nucleic acids" and "oligonucleotides" are used interchangeably and include, but are not limited to RNA, DNA, RNA/DNA sequences of more than one nucleotide in either single chain or duplex form. The polynucleotide sequences of the present invention may be prepared from any known method including, but not limited to, any synthetic method, any recombinant method, any *ex vivo* generation method and the like, as well as combinations thereof.

[0058] The term "polypeptide" means herein a polymer of amino acids having no specific length. Thus, peptides, oligopeptides and proteins are included in the definition of "polypeptide" and these terms are used interchangeably throughout the specification, as well as in the claims. The term "polypeptide" does not exclude post-translational modifications such as polypeptides having covalent attachment of glycosyl groups, aceteyl groups, phosphate groups, lipid groups and the like. Also encompassed by this definition of "polypeptide" are homologs thereof.

[0059] By the term "homologs" is meant structurally similar genes contained within a given species, orthologs are functionally equivalent genes from a given species or strain, as determined for example, in a standard complementation assay. Thus, a polypeptide of interest can be used not only as a model for identifying similiar genes in given strains, but also to identify homologs and orthologs of the polypeptide of interest in other species. The orthologs, for example, can also be identified in a conventional complementation assay. In addition or alternatively, such orthologs can be expected to exist in bacteria (or other kind of cells) in the same branch of the phylogenic tree, as set forth, for example, at ftp://ftp.cme.msu.edu/pub/rdp/SSU-rRNA/SSU/Prok.phylo.

[0060] As used herein the term "prey polynucleotide" means a chimeric polynucleotide encoding a polypeptide comprising (i) a specific domain; and (ii) a polypeptide that is to be tested for interaction with a bait polypeptide. The specific domain is preferably a transcriptional activating domain.

[0061] As used herein, a "bait polynucleotide" is a chimeric polynucleotide encoding a chimeric polypeptide comprising (i) a complementary domain; and (ii) a polypeptide that is to

be tested for interaction with at least one prey polypeptide. The complementary domain is preferably a DNA-binding domain that recognizes a binding site that is further detected and is contained in the host organism.

[0062] As used herein "complementary domain" is meant a functional constitution of the activity when bait and prey are interacting; for example, enzymatic activity.

[0063] As used herein "specific domain" is meant a functional interacting activation domain that may work through different mechanisms by interacting directly or indirectly through intermediary proteins with RNA polymerase II or III-associated proteins in the vicinity of the transcription start site.

[0064] As used herein the term "complementary" means that, for example, each base of a first polynucleotide is paired with the complementary base of a second polynucleotide whose orientation is reversed. The complementary bases are A and T (or A and U) or C and G.

[0065] The term "sequence identity" refers to the identity between two peptides or between two nucleic acids. Identity between sequences can be determined by comparing a position in each of the sequences which may be aligned for the purposes of comparison. When a position in the compared sequences is occupied by the same base or amino acid, then the sequences are identical at that position. A degree of sequence identity between nucleic acid sequences is a function of the number of identical nucleotides at positions shared by these sequences. A degree of identity between amino acid sequences is a function of the number of identical amino acid sequences that are shared between these sequences. Since two polypeptides may each (i) comprise a sequence (i.e., a portion of a complete polynucleotide sequence) that is similar between two polynucleotides, and (ii) may further comprise a sequence that is divergent between two polynucleotides, sequence identity comparisons between two or more polynucleotides over a "comparison window" refers to the conceptual segment of at least 20 contiguous nucleotide positions wherein a polynucleotide sequence may be compared to a reference nucleotide sequence of at least 20 contiguous nucleotides and wherein the portion of the polynucleotide sequence in the comparison window may comprise additions or deletions (i.e., gaps) of 20 percent or less compared to the reference sequence (which does not comprise additions or deletions) for optimal alignment of the two sequences.

[0066] To determine the percent identity of two amino acids sequences or two nucleic acid sequences, the sequences are aligned for optimal comparison. For example, gaps can be introduced in the sequence of a first amino acid sequence or a first nucleic acid sequence for optimal alignment with the second amino acid sequence or second nucleic acid sequence. The amino acid residues or nucleotides at corresponding amino acid positions or nucleotide positions are then compared. When a position in the first sequence is occupied

by the same amino acid residue or nucleotide as the corresponding position in the second sequence, the molecules are identical at that position.

[0067] The percent identity between the two sequences is a function of the number of identical positions shared by the sequences. Hence % identity = number of identical positions / total number of overlapping positions X 100.

[0068] In this comparison the sequences can be the same length or may be different in length. Optimal alignment of sequences for determining a comparison window may be conducted by the local homology algorithm of Smith and Waterman (*J. Theor. Biol.*, 91 (2) pgs. 370-380 (1981), by the homology alignment algorithm of Needleman and Wunsch, *J. Miol. Biol.*, 48(3) pgs. 443-453 (1972), by the search for similarity via the method of Pearson and Lipman, *PNAS, USA*, 85(5) pgs. 2444-2448 (1988) , by computerized implementations of these algorithms (GAP, BESTFIT, FASTA and TFASTA in the Wisconsin Genetics Software Package Release 7.0, Genetic Computer Group, 575, Science Drive, Madison, Wisconsin) or by inspection.

[0069] The best alignment (i.e., resulting in the highest percentage of identity over the comparison window) generated by the various methods is selected.

[0070] The term "sequence identity" means that two polynucleotide sequences are identical (i.e., on a nucleotide by nucleotide basis) over the window of comparison. The term "percentage of sequence identity" is calculated by comparing two optimally aligned sequences over the window of comparison, determining the number of positions at which the identical nucleic acid base (e.g., A, T, C, G, U, or I) occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the window of comparison (i.e., the window size) and multiplying the result by 100 to yield the percentage of sequence identity. The same process can be applied to polypeptide sequences.

[0071] The percentage of sequence identity of a nucleic acid sequence or an amino acid sequence can also be calculated using BLAST software (Version 2.06 of September 1998) with the default or user defined parameter.

[0072] The term "sequence similarity" means that amino acids can be modified while retaining the same function. It is known that amino acids are classified according to the nature of their side groups and some amino acids such as the basic amino acids can be interchanged for one another while their basic function is maintained.

[0073] The term "isolated" as used herein means that a biological material such as a nucleic acid or protein has been removed from its original environment in which it is naturally present. For example, a polynucleotide present in a plant, mammal or animal is present in its natural state and is not considered to be isolated. The same polynucleotide separated

from the adjacent nucleic acid sequences in which it is naturally inserted in the genome of the plant or animal is considered as being "isolated."

[0074] The term "isolated" is not meant to exclude artificial or synthetic mixtures with other compounds, or the presence of impurities which do not interfere with the biological activity and which may be present, for example, due to incomplete purification, addition of stabilizers or mixtures with pharmaceutically acceptable excipients and the like.

[0075] "Isolated polypeptide" or "isolated protein" as used herein means a polypeptide or protein which is substantially free of those compounds that are normally associated with the polypeptide or protein in a naturally state such as other proteins or polypeptides, nucleic acids, carbohydrates, lipids and the like.

[0076] The term "purified" as used herein means at least one order of magnitude of purification is achieved, preferably two or three orders of magnitude, most preferably four or five orders of magnitude of purification of the starting material or of the natural material. Thus, the term "purified" as utilized herein does not mean that the material is 100% purified and thus excludes any other material.

[0077] The term "variants" when referring to, for example, polynucleotides encoding a polypeptide variant of a given reference polypeptide are polynucleotides that differ from the reference polypeptide but generally maintain their functional characteristics of the reference polypeptide. A variant of a polynucleotide may be a naturally occurring allelic variant or it may be a variant that is known naturally not to occur. Such non-naturally occurring variants of the reference polynucleotide can be made by, for example, mutagenesis techniques, including those mutagenesis techniques that are applied to polynucleotides, cells or organisms.

[0078] Generally, differences are limited so that the nucleotide sequences of the reference and variant are closely similar overall and, in many regions identical.

[0079] Variants of polynucleotides according to the present invention include, but are not limited to, nucleotide sequences which are at least 95% identical after alignment to the reference polynucleotide encoding the reference polypeptide. These variants can also have 96%, 97%, 98% and 99.999% sequence identity to the reference polynucleotide.

[0080] Nucleotide changes present in a variant polynucleotide may be silent, which means that these changes do not alter the amino acid sequences encoded by the reference polynucleotide.

[0081] Substitutions, additions and/or deletions can involve one or more nucleic acids. Alterations can produce conservative or non-conservative amino acid substitutions, deletions and/or additions.

[0082] Variants of a prey or a SID® polypeptide encoded by a variant polynucleotide can possess a higher affinity of binding and/or a higher specificity of binding to its protein or

polypeptide counterpart, against which it has been initially selected. In another context, variants can also loose their ability to bind to their protein or polypeptide counterpart.

[0083] By "anabolic pathway" is meant a reaction or series of reactions in a metabolic pathway that synthesize complex molecules from simpler ones, usually requiring the input of energy. An anabolic pathway is the opposite of a catabolic pathway.

[0084] As used herein, a "catabolic pathway" is a series of reactions in a metabolic pathway that break down complex compounds into simpler ones, usually releasing energy in the process. A catabolic pathway is the opposite of an anabolic pathway.

[0085] As used herein, "drug metabolism" is meant the study of how drugs are processed and broken down by the body. Drug metabolism can involve the study of enzymes that break down drugs, the study of how different drugs interact within the body and how diet and other ingested compounds affect the way the body processes drugs.

[0086] As used herein, "metabolism" means the sum of all of the enzyme-catalyzed reactions in living cells that transform organic molecules.

[0087] By "secondary metabolism" is meant pathways producing specialized metabolic products that are not found in every cell.

[0088] As used herein, "SID®" means a Selected Interacting Domain and is identified as follows: for each bait polypeptide screened, selected prey polypeptides are compared. Overlapping fragments in the same ORF or CDS define the selected interacting domain.

[0089] As used herein the term "PIM®" means a protein-protein interaction map. This map is obtained from data acquired from a number of separate screens using different bait polypeptides and is designed to map out all of the interactions between the polypeptides.

[0090] The term "affinity of binding", as used herein, can be defined as the affinity constant Ka when a given SID® polypeptide of the present invention which binds to a polypeptide and is the following mathematical relationship:

[0091] [SID®/polypeptide complex]

[0092] Ka = ----------

[0093] [free SID®] [free polypeptide]

[0094] wherein [free SID®], [free polypeptide] and [SID®/polypeptide complex] consist of the concentrations at equilibrium respectively of the free SID® polypeptide, of the free polypeptide onto which the SID® polypeptide binds and of the complex formed between SID® polypeptide and the polypeptide onto which said SID® polypeptide specifically binds.

[0095] The affinity of a SID® polypeptide of the present invention or a variant thereof for its polypeptide counterpart can be assessed, for example, on a Biacore™ apparatus marketed by Amersham Pharmacia Biotech Company such as described by Szabo et al *Curr*

Opin Struct Biol **5** pgs. 699-705 (1995) and by Edwards and Leartherbarrow, *Anal. Biochem* 246 pgs. 1-6 (1997).

[0096] As used herein the phrase "at least the same affinity" with respect to the binding affinity between a SID® polypeptide of the present invention to another polypeptide means that the Ka is identical or can be at least two-fold, at least three-fold or at least five fold greater than the Ka value of reference.

[0097] As used herein, the term "modulating compound" means a compound that inhibits or stimulates or can act on another protein which can inhibit or stimulate the protein-protein interaction of a complex of two polypeptides or the protein-protein interaction of two polypeptides.

[0098] More specifically, the present invention comprises complexes of polypeptides or polynucleotides encoding the polypeptides composed of a bait polypeptide, or a bait polynucleotide encoding a bait polypeptide and a prey polypeptide or a prey polynucleotide encoding a prey polypeptide. The prey polypeptide or prey polynucleotide encoding the prey polypeptide is capable of interacting with a bait polypeptide of interest in various hybrid systems.

[0099] As described in the Background of the present invention there are various methods known in the art to identify prey polypeptides that interact with bait polypeptides of interest. These methods, include, but are not limited to, generic two-hybrid systems as described by Fields et al in *Nature*, 340:245-246 (1989) and more specifically in U.S. Patent Nos. 5,283,173, 5,468,614 and 5,667,973, which are hereby incorporated by reference; the reverse two-hybrid system described by Vidal et al, *supra*; the two plus one hybrid method described, for example, in Tirode et al, *supra*; the yeast forward and reverse 'n'-hybrid systems as described in Vidal and Legrain, *supra*; the method described in WO 99/42612; those methods described in Legrain et al *FEBS Letters* 480 pgs. 32-36 (2000) and the like.

[0100] The present invention is not limited to the type of method utilized to detect protein-protein interactions and therefore any method known in the art and variants thereof can be used. It is however better to use the method described in WO 99/42612 or WO 00/66722, both references incorporated herein by reference due to the methods' sensitivity, reproducibility and reliability.

[0101] Protein-protein interactions can also be detected using complementation assays such as those described by Pelletier et al. at http://www.abrf.org/JBT/Articles/JBT0012/jbt0012.html, WO 00/07038 and WO98/34120.

[0102] Although the above methods are described for applications in the yeast system, the present invention is not limited to detecting protein-protein interactions using yeast, but also includes similar methods that can be used in detecting protein-protein interactions in, for example, mammalian systems as described, for example in Takacs et al., *Proc. Natl. Acad.*

Sci., USA, **90** (21):10375-79 (1993) and Vasavada et al., *Proc. Natl. Acad. Sci., USA*, 88 (23):10686-90 (1991), as well as a bacterial two-hybrid system as described in Karimova et al (1998), WO99/28746, WO 00/66722 and Legrain et al *FEBS Letters,* **480** pgs. 32-36 (2000).

[0103] The above-described methods are limited to the use of yeast, mammalian cells and *Escherichia coli* cells, the present invention is not limited in this manner. Consequently, mammalian and typically human cells, as well as bacterial, yeast, fungus, insect, nematode and plant cells are encompassed by the present invention and may be transfected by the nucleic acid or recombinant vector as defined herein.

[0104] Examples of suitable cells include, but are not limited to, VERO cells, HELA cells such as ATCC No. CCL2, CHO cell lines such as ATCC No. CCL61, COS cells such as COS-7 cells and ATCC No. CRL 1650 cells, W138, BHK, HepG2, 3T3 such as ATCC No. CRL6361, A549, PC12, K562 cells, 293 cells, Sf9 cells such as ATCC No. CRL1711 and Cv1 cells such as ATCC No. CCL70.

[0105] Other suitable cells that can be used in the present invention include, but are not limited to, prokaryotic host cells strains such as *Escherichia coli,* (e.g., strain DH5-α), *Bacillus subtilis*, *Salmonella typhimurium*, or strains of the genera of *Pseudomonas*, *Streptomyces* and *Staphylococcus*.

[0106] Further suitable cells that can be used in the present invention include yeast cells such as those of *Saccharomyces* such as *Saccharomyces cerevisiae*.

[0107] The bait polynucleotide, as well as the prey polynucleotide can be prepared according to the methods known in the art such as those described above in the publications and patents reciting the known method *per se*.

[0108] The bait polynucleotide of the present invention is obtained from *Shigella flexneri* (see Table I). The prey polynucleotide is obtained form a human placenta cDNA or variants thereof and fragments from the genome or transcriptome of human placenta ranging from about 12 to about 5,000, or about 12 to about 10,000 or from about 12 to about 20,000. The prey polynucleotide is then selected, sequenced and identified.

[0109] A human placenta cDNA prey library is prepared from global human placenta and constructed in the specially designed prey vector pP6 as shown in Figure 10 after ligation of suitable linkers such that every cDNA fragment insert is fused to a nucleotide sequence in the vector that encodes the transcription activation domain of a reporter gene. Any transcription activation domain can be used in the present invention. Examples include, but are not limited to, Gal4,YP16, B42, His and the like. Toxic reporter genes, such as CAT^R, CYH2, CYH1, URA3, bacterial and fungi toxins and the like can be used in reverse two-hybrid systems.

[0110] The polypeptides encoded by the nucleotide inserts of the human placenta cDNA prey library thus prepared are termed "prey polypeptides" in the context of the presently described selection method of the prey polynucleotides.

[0111] The bait polynucleotide can be inserted in bait plasmid pB6 or pB20 as illustrated in Figure 3 or 6 respectively. The bait polynucleotide insert is fused to a polynucleotide encoding the binding domain of, for example, the Gal4 DNA binding domain and the shuttle expression vector is used to transform cells. The bait polynucleotides used in the present invention are describes in Table I. As stated above, any cells can be utilized in transforming the bait and prey polynucleotides of the present invention including mammalian cells, bacterial cells, yeast cells, insect cells and the like.

[0112] In an embodiment, the present invention identifies protein-protein interactions in yeast. In using known methods a prey positive clone is identified containing a vector which comprises a nucleic acid insert encoding a prey polypeptide which binds to a bait polypeptide of interest. The method in which protein-protein interactions are identified comprises the following steps:

[0113] mating at least one first haploid recombinant yeast cell clone from a recombinant yeast cell clone library that has been transformed with a plasmid containing the prey polynucleotide to be assayed with a second haploid recombinant yeast cell clone transformed with a plasmid containing a bait polynucleotide encoding for the bait polypeptide;

[0114] cultivating diploid cell clones obtained in step i) on a selective medium; and

[0115] selecting recombinant cell clones which grow on the selective medium.

[0116] This method may further comprise the step of:

[0117] iv) characterizing the prey polynucleotide contained in each recombinant cell clone which is selected in step iii).

[0118] In yet another embodiment of the present invention, *in lieu* of yeast, *Escherichia coli* is used in a bacterial two-hybrid system, which encompasses a similar principle to that described above for yeast, but does not involve mating for characterizing the prey polynucleotide.

[0119] In yet another embodiment of the present invention, mammalian cells and a method similar to that described above for yeast for characterizing the prey polynucleotide are used.

[0120] By performing the yeast, bacterial or mammalian two-hybrid system it is possible to identify for one particular bait an interacting prey polypeptide. The prey polypeptide that has been selected by testing the library of preys in a screen using the two-hybrid, two plus one hybrid methods and the like, encodes the polypeptide interacting with the protein of interest.

[0121] The present invention is also directed, in a general aspect, to a complex of polypeptides, polynucleotides encoding the polypeptides composed of a bait polypeptide or bait polynucleotide encoding the bait polypeptide and a prey polypeptide or prey polynucleotide encoding the prey polypeptide capable of interacting with the bait polypeptide of interest. These complexes are identified in Table II, as the bait amino acid sequences and the prey amino acid sequences, as well as the bait and prey nucleic acid sequences.

[0122] In another aspect, the present invention relates to a complex of polynucleotides consisting of a first polynucleotide, or a fragment thereof, encoding a prey polypeptide that interacts with a bait polypeptide and a second polynucleotide or a fragment thereof. This fragment has at least 12 consecutive nucleotides, but can have between 12 and 5,000 consecutive nucleotides, or between 12 and 10,000 consecutive nucleotides or between 12 and 20,000 consecutive nucleotides.

[0123] The polypeptides of column 1 and 3 from Table II according to the present invention and the complexes of these two polypeptides also form part of the present invention. More specifically, the polypeptides of SEQ ID NOS. 1 to 7 are part of the present invention and their complexes with the polypeptides of Column 3, Table II.

[0124] In yet another embodiment, the present invention relates to an isolated complex of at least two polypeptides encoded by two polynucleotides wherein said two polypeptides are associated in the complex by affinity binding and are depicted in columns 1 and 3 of Table II.

[0125] In yet another embodiment, the present invention relates to an isolated complex comprising at least a polypeptide as described in column 1 of Table II and a polypeptide as described in column 3 of Table II. The present invention is not limited to these polypeptide complexes alone but also includes the isolated complex of the two polypeptides in which fragments and/or homologous polypeptides exhibiting at least 95% sequence identity, as well as from 96% sequence identity to 99.999% sequence identity.

[0126] Also encompassed in another embodiment of the present invention is an isolated complex in which SID® of the prey polypeptides encoded by SEQ ID Nos. 15 to 215 in Table III form the isolated complex.

[0127] Besides the isolated complexes described above, nucleic acids coding for a Selected Interacting Domain (SID®) polypeptide or a variant thereof or any of the nucleic acids set forth in Table III can be inserted into an expression vector which contains the necessary elements for the transcription and translation of the inserted protein-coding sequence. Such transcription elements include a regulatory region and a promoter. Thus, the nucleic acid which may encode a marker compound of the present invention is operably linked to a promoter in the expression vector. The expression vector may also include a replication origin.

[0128] A wide variety of host/expression vector combinations are employed in expressing the nucleic acids of the present invention. Useful expression vectors that can be used include, for example, segments of chromosomal, non-chromosomal and synthetic DNA sequences. Suitable vectors include, but are not limited to, derivatives of SV40 and pcDNA and known bacterial plasmids such as col EI, pCR1, pBR322, pMal-C2, pET, pGEX as described by Smith et al [need cite 1988], pMB9 and derivatives thereof, plasmids such as RP4, phage DNAs such as the numerous derivatives of phage I such as NM989, as well as other phage DNA such as M13 and filamentous single stranded phage DNA; yeast plasmids such as the 2 micron plasmid or derivatives of the 2m plasmid, as well as centomeric and integrative yeast shuttle vectors; vectors useful in eukaryotic cells such as vectors useful in insect or mammalian cells; vectors derived from combinations of plasmids and phage DNAs, such as plasmids that have been modified to employ phage DNA or the expression control sequences; and the like.

[0129] For example in a baculovirus expression system, both non-fusion transfer vectors, such as, but not limited to pVL941 (*Bam*HI cloning site Summers, pVL1393 (*Bam*HI, *Sma*I, *Xba*I, *Eco*RI, *Not*I, *Xma*III, *Bgl*II and *Pst*I cloning sites; Invitrogen) pVL1392 (*Bgl*II, *Pst*I, *Not*I, *Xma*III, *Eco*RI, *Xba*I, *Sma*I and *Bam*HI cloning site; Summers and Invitrogen) and pBlue*Bac*III (*Bam*HI, *Bgl*II, *Pst*I, *Nco*I and *Hind*III cloning site, with blue/white recombinant screening, Invitrogen), and fusion transfer vectors such as, but not limited to, pAc700(*Bam*HI and *Kpn*I cloning sites, in which the *Bam*HI recognition site begins with the initiation codon; Summers), pAc701 and pAc70-2 (same as pAc700, with different reading frames), pAc360 (*Bam*HI cloning site 36 base pairs downstream of a polyhedrin initiation codon; Invitrogen (195)) and pBlueBacHisA, B, C (three different reading frames with *Bam*HI, *Bgl*II, *Pst*I, *Nco*I and *Hind*III cloning site, an N-terminal peptide for ProBond purification and blue/white recombinant screening of plaques; Invitrogen (220) can be used.

[0130] Mammalian expression vectors contemplated for use in the invention include vectors with inducible promoters, such as the dihydrofolate reductase promoters, any expression vector with a DHFR expression cassette or a DHFR/methotrexate co-amplification vector such as pED (*Pst*I, *Sal*I, SbaI, SmaI and *Eco*RI cloning sites, with the vector expressing both the cloned gene and DHFR; Kaufman, 1991). Alternatively a glutamine synthetase/methionine sulfoximine co-amplification vector, such as pEE14 (*Hind*III, *Xba*I, *Sma*I, *Sba*I, *Eco*RI and *Bcl*I cloning sites in which the vector expresses glutamine synthetase and the cloned gene; Celltech). A vector that directs episomal expression under the control of the Epstein Barr Virus (EBV) or nuclear antigen (EBNA) can be used such as pREP4 (*Bam*HI, *Sfi*I, *Xho*I, *Not*I, *Nhe*I, *Hind*III, *Nhe*I, *Pvu*II and *Kpn*I cloning sites, constitutive RSV-LTR promoter, hygromycin selectable marker; Invitrogen) pCEP4 (*Bam*HI, *Sfi*I, *Xho*I, *Not*I, *Nhe*I, *Hind*III, *Nhe*I, *Pvu*II and *Kpn*I cloning sites, constitutive hCMV

immediate early gene promoter, hygromycin selectable marker; Invitrogen), pMEP4 (*Kpn*I, *Pvu*I, *Nhe*I, *Hind*III, *Not*I, *Xho*I, *Sfi*I, *Bam*HI cloning sites, inducible methallothionein IIa gene promoter, hygromycin selectable marker, Invitrogen), pREP8 (*Bam*HI, *Xho*I, *Not*I, *Hind*III, *Nhe*I and *Kpn*I cloning sites, RSV-LTR promoter, histidinol selectable marker; Invitrogen), pREP9 (*Kpn*I, *Nhe*I, *Hind*III, *Not*I, *Xho*I, *Sfi*I, *Bam*HI cloning sites, RSV-LTR promoter, G418 selectable marker; Invitrogen), and pEBVHis (RSV-LTR promoter, hygromycin selectable marker, N-terminal peptide purifiable via ProBond resin and cleaved by enterokinase; Invitrogen).

[0131] Selectable mammalian expression vectors for use in the invention include, but are not limited to, pRc/CMV (*Hind*III, *Bst*XI, *Not*I, *Sba*I and *Apa*I cloning sites, G418 selection, Invitrogen), pRc/RSV (*Hind*II, *Spe*I, *Bst*XI, *Not*I, *Xba*I cloning sites, G418 selection, Invitrogen) and the like. Vaccinia virus mammalian expression vectors (see, for example Kaufman 1991 that can be used in the present invention include, but are not limited to, pSC11 (*Sma*I cloning site, TK- and β-gal selection), pMJ601 (*Sal*I, *Sma*I, *Afl*I, *Nar*I, *Bsp*MII, *Bam*HI, *Apa*I, *Nhe*I, *Sac*II, *Kpn*I and *Hind*III cloning sites; TK- and β-gal selection), pTKgptF1S (*Eco*RI, *Pst*I, *Sal*I, *Acc*I, *Hind*II, *Sba*I, *Bam*HI and *Hpa* cloning sites, TK or XPRT selection) and the like.

[0132] Yeast expression systems that can also be used in the present include, but are not limited to, the non-fusion pYES2 vector (*Xba*I, *Sph*I, *Sho*I, *Not*I, *Gst*XI, *Eco*RI, *Bst*XI, *Bam*HI, *Sac*I, *Kpn*I and *Hind*III cloning sites, Invitrogen), the fusion pYESHisA, B, C (*Xba*I, *Sph*I, *Sho*I, *Not*I, *Bst*XI, *Eco*RI, *Bam*HI, *Sac*I, *Kpn*I and *Hind*III cloning sites, N-terminal peptide purified with ProBond resin and cleaved with enterokinase; Invitrogen), pRS vectors and the like.

[0133] Consequently, mammalian and typically human cells, as well as bacterial, yeast, fungi, insect, nematode and plant cells an used in the present invention and may be transfected by the nucleic acid or recombinant vector as defined herein.

[0134] Examples of suitable cells include, but are not limited to, VERO cells, HELA cells such as ATCC No. CCL2, CHO cell lines such as ATCC No. CCL61, COS cells such as COS-7 cells and ATCC No. CRL 1650 cells, W138, BHK, HepG2, 3T3 such as ATCC No. CRL6361, A549, PC12, K562 cells, 293 cells, Sf9 cells such as ATCC No. CRL1711 and Cv1 cells such as ATCC No. CCL70.

[0135] Other suitable cells that can be used in the present invention include, but are not limited to, prokaryotic host cells strains such as *Escherichia coli,* (e.g., strain DH5-α), *Bacillus subtilis*, *Salmonella typhimurium*, or strains of the genera of *Pseudomonas*, *Streptomyces* and *Staphylococcus*.

[0136] Further suitable cells that can be used in the present invention include yeast cells such as those of *Saccharomyces* such as *Saccharomyces cerevisiae*.

[0137] Besides the specific isolated complexes, as described above, the present invention relates to and also encompasses SID® polynucleotides. As explained above, for each bait polypeptide, several prey polypeptides may be identified by comparing and selecting the intersection of every isolated fragment that are included in the same polypeptide. Thus the SID® polynucleotides of the present invention are represented by the shared nucleic acid sequences of SEQ ID Nos. 15 to 215 encoding the SID® polypeptides of SEQ ID Nos. 216 to 416 in columns 5 and 7 of Table III, respectively.

[0138] The present invention is not limited to the SID® sequences as described in the above paragraph, but also includes fragments of these sequences having at least 12 consecutive nucleic acids, between 12 and 5,000 consecutive nucleic acids and between 12 and 10,000 consecutive nucleic acids and between 12 and 20,000 consecutive nucleic acids, as well as variants thereof. The fragments or variants of the SID® sequences possess at least the same affinity of binding to its protein or polypeptide counterpart, against which it has been initially selected. Moreover this variant and/or fragments of the SID® sequences alternatively can have between 95% and 99.999% sequence identity to its protein or polypeptide counterpart.

[0139] According to the present invention the variants can be created by known mutagenesis techniques either *in vitro* or *in vivo*. Such a variant can be created such that it has altered binding characteristics with respect to the target protein and more specifically that the variant binds the target sequence with either higher or lower affinity.

[0140] Polynucleotides that are complementary to the above sequences which include the polynucleotides of the SID®'s, their fragments, variants and those that have specific sequence identity are also included in the present invention.

[0141] The polynucleotide encoding the SID® polypeptide, fragment or variant thereof can also be inserted into recombinant vectors which are described in detail above.

[0142] The present invention also relates to a composition comprising the above-mentioned recombinant vectors containing the SID® polypeptides in Table III, fragments or variants thereof, as well as recombinant host cells transformed by the vectors. The recombinant host cells that can be used in the present invention were discussed in greater detail above.

[0143] The compositions comprising the recombinant vectors can contain physiological acceptable carriers such as diluents, adjuvants, excipients and any vehicle in which this composition can be delivered therapeutically and can include, but is are not limited to sterile liquids such as water and oils.

[0144] In yet another embodiment, the present invention relates to a method of selecting modulating compounds, as well as the modulating molecules or compounds themselves which may be used in a pharmaceutical composition. These modulating compounds may

act as a cofactor, as an inhibitor, as antibodies, as tags, as a competitive inhibitor, as an activator or alternatively have agonistic or antagonistic activity on the protein-protein interactions.

[0145] The activity of the modulating compound does not necessarily, for example, have to be 100% activation or inhibition. Indeed, even partial activation or inhibition can be achieved that is of pharmaceutical interest.

[0146] The modulating compound can be selected according to a method which comprises:

[0147] cultivating a recombinant host cell with a modulating compound on a selective medium and a reporter gene the expression of which is toxic for said recombinant host cell wherein said recombinant host cell is transformed with two vectors:

[0148] wherein said first vector comprises a polynucleotide encoding a first hybrid polypeptide having a DNA binding domain;

[0149] wherein said second vector comprises a polynucleotide encoding a second hybrid polypeptide having a transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact;

[0150] selecting said modulating compound which inhibits or permits the growth of said recombinant host cell.

[0151] Thus, the present invention relates to a modulating compound that inhibits the protein-protein interactions between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively. The present invention also relates to a modulating compound that activates the protein-protein interactions between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively.

[0152] In yet another embodiment, the present invention relates to a method of selecting a modulating compound, which modulating compound inhibits the interaction between *Shigella flexneri* polypeptide and human placenta polypeptide of columns 1 and 3 of Table II, respectively. This method comprises:

(a) cultivating a recombinant host cell with a modulating compound on a selective medium and a reporter gene the expression of which is toxic for said recombinant host cell wherein said recombinant host cell is transformed with two vectors:

(i) wherein said first vector comprises a polynucleotide encoding a first hybrid polypeptide having a first domain of an enzyme;

(ii) wherein said second vector comprises a polynucleotide encoding a second hybrid polypeptide having an enzymatic transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact;

(b) selecting said modulating compound which inhibits or permits the growth of said recombinant host cell.

[0153] In the two methods described above any toxic reporter gene can be utilized including those reporter genes that can be used for negative selection including the URA3 gene, the CYH1 gene, the CYH2 gene and the like.

[0154] In yet another embodiment, the present invention provides a kit for screening a modulating compound. This kit comprises a recombinant host cell which comprises a reporter gene the expression of which is toxic for the recombinant host cell. The host cell is transformed with two vectors. The first vector comprises a polynucleotide encoding a first hybrid polypeptide having a DNA binding domain; and a second vector comprises a polynucleotide encoding a second hybrid polypeptide having a transcriptional activating domain that activates said toxic reporter gene when the first and second hybrid polypeptides interact.

[0155] In yet another embodiment a kit is provided for screening a modulating compound by providing a recombinant host cell, as described in the paragraph above, but instead of a DNA binding domain, the first vector comprises a first hybrid polypeptide containing a first domain of a protein. The second vector comprises a second polypeptide containing a second part of a complementary domain of a protein that activates the toxic reporter gene when the first and second hybrid polypeptides interact.

[0156] In the selection methods described above, the activating domain can be p42 Gal 4, YP16 (HSV) and the DNA-binding domain can be derived from Gal4 or Lex A. The protein or enzyme can be adenylate cyclase, guanylate cyclase, DHFR and the like.

[0157] Examples of modulating compounds are set forth in Table III.

[0158] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising the modulating compounds for preventing or treating bacillary dysentery in a human or animal, most preferably in a mammal.

[0159] This pharmaceutical composition comprises a pharmaceutically acceptable amount of the modulating compound. The pharmaceutically acceptable amount can be estimated from cell culture assays. For example, a dose can be formulated in animal models to achieve a circulating concentration range that includes or encompasses a concentration point or range having the desired effect in an *in vitro* system. This information can thus be used to accurately determine the doses in other mammals, including humans and animals.

[0160] The therapeutically effective dose refers to that amount of the compound that results in amelioration of symptoms in a patient. Toxicity and therapeutic efficacy of such compounds can be determined by standard pharmaceutical procedures in cell cultures or in experimental animals. For example, the LD50 (the dose lethal to 50% of the population) as

well as the ED50 (the dose therapeutically effective in 50% of the population) can be determined using methods known in the art. The dose ratio between toxic and therapeutic effects is the therapeutic index which can be expressed as the ratio between LD 50 and ED50 compounds that exhibit high therapeutic indexes.

[0161] The data obtained from the cell culture and animal studies can be used in formulating a range of dosage of such compounds which lies preferably within a range of circulating concentrations that include the ED50 with little or no toxicity.

[0162] The pharmaceutical composition can be administered via any route such as locally, orally, systemically, intravenously, intramuscularly, mucosally, using a patch and can be encapsulated in liposomes, microparticles, microcapsules, and the like. The pharmaceutical composition can be embedded in liposomes or even encapsulated.

[0163] Any pharmaceutically acceptable carrier or adjuvant can be used in the pharmaceutical composition. The modulating compound will be preferably in a soluble form combined with a pharmaceutically acceptable carrier. The techniques for formulating and administering these compounds can be found in "*Remington's Pharmaceutical Sciences*" Mack Publication Co., Easton, PA, latest edition.

[0164] The mode of administration optimum dosages and galenic forms can be determined by the criteria known in the art taken into account the seriousness of the general condition of the mammal, the tolerance of the treatment and the side effects.

[0165] The present invention also relates to a method of treating or preventing bacillary dysentery in a human or mammal in need of such treatment. This method comprises administering to a mammal in need of such treatment a pharmaceutically effective amount of a modulating compound which binds to a targeted Shigella protein. In a preferred embodiment, the modulating compound is a polynucleotide which may be placed under the control of a regulatory sequence which is functional in the mammal or human.

[0166] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising a SID® polypeptide, a fragment or variant thereof. The SID® polypeptide, fragment or variant thereof can be used in a pharmaceutical composition provided that it is endowed with highly specific binding properties to a bait polypeptide of interest.

[0167] The original properties of the SID® polypeptide or variants thereof interfere with the naturally occurring interaction between a first protein and a second protein within the cells of the organism. Thus, the SID® polypeptide binds specifically to either the first polypeptide or the second polypeptide.

[0168] Therefore, the SID® polypeptides of the present invention or variants thereof interfere with protein-protein interactions between *Shigella* or *Escherichia* polypeptides or between a mammal polypeptide.

[0169] Thus, the present invention relates to a pharmaceutical composition comprising a pharmaceutically acceptable amount of a SID® polypeptide or variant thereof, provided that the variant has the above-mentioned two characteristics; i.e., that it is endowed with highly specific binding properties to a bait polypeptide of interest and is devoid of biological activity of the naturally occurring protein.

[0170] In yet another embodiment, the present invention relates to a pharmaceutical composition comprising a pharmaceutically effective amount of a polynucleotide encoding a SID® polypeptide or a variant thereof wherein the polynucleotide is placed under the control of an appropriate regulatory sequence. Appropriate regulatory sequences that are used are polynucleotide sequences derived from promoter elements and the like.

[0171] Polynucleotides that can be used in the pharmaceutical composition of the present invention include the nucleotide sequences of SID®s of SEQ ID Nos. 15 to 215.

[0172] Besides the SID® polypeptides and polynucleotides, the pharmaceutical composition of the present invention can also include a recombinant expression vector comprising the polynucleotide encoding the SID® polypeptide, fragment or variant thereof.

[0173] The above described pharmaceutical compositions can be administered by any route such as orally, systemically, intravenously, intramuscularly, intradermally, mucosally, encapsulated, using a patch and the like. Any pharmaceutically acceptable carrier or adjuvant can be used in this pharmaceutical composition.

[0174] The SID® polypeptides as active ingredients will be preferably in a soluble form combined with a pharmaceutically acceptable carrier. The techniques for formulating and administering these compounds can be found in "*Remington's Pharmaceutical Sciences*" *supra*.

[0175] The amount of pharmaceutically acceptable SID® polypeptides can be determined as described above for the modulating compounds using cell culture and animal models.

[0176] Such compounds can be used in a pharmaceutical composition to treat or prevent bacillary dysentery.

[0177] Thus, the present invention also relates to a method of preventing or treating bacillary dysentery in a mammal said method comprising the steps of administering to a

mammal in need of such treatment a pharmaceutically effective amount of a recombinant expression vector comprising a polynucleotide encoding a SID® polypeptide which binds to a either to a *Shigella flexneri* protein or to a human placenta protein involved in a protein-protein interaction between a *Shigella flexneri* protein and an human placenta protein.More specifically, the present invention relates to a method of preventing or treating bacillary dysentery in a mammal said method comprising the steps of administering to a mammal in need of such treatment a pharmaceutically effective amount of:

(1) a SID® polypeptide of SEQ ID Nos. 216 to 416 or a variant thereof which binds to a targeted *Shigella flexneri* protein or human placenta protein; or

(2) a SID® polynucleotide encoding a SID® polypeptide of SEQ ID Nos. 15 to 215 or a variant or a fragment thereof wherein said polynucleotide is placed under the control of a regulatory sequence which is functional in said mammal; or

(3) a recombinant expression vector comprising a polynucleotide encoding a SID® polypeptide which binds either to a *Shigella flexneri* protein or to a human placenta protein involved in a protein-protein interaction between a *Shigella flexneri* protein and an human placenta protein.

[0178] In another embodiment the present invention nucleic acids comprising a sequence of SEQ ID Nos. 15 to 215 which encodes the protein of sequence SEQ ID Nos. 216 to 416 and/or functional derivatives thereof are administered to modulate complex (from Table II) function by way of gene therapy. Any of the methodologies relating to gene therapy available within the art may be used in the practice of the present invention such as those described by Goldspiel et al *Clin. Pharm.* **12** pgs. 488-505 (1993).

[0179] Delivery of the therapeutic nucleic acid into a patient may be direct *in vivo* gene therapy (i.e., the patient is directly exposed to the nucleic acid or nucleic acid-containing vector) or indirect *ex vivo* gene therapy (i.e., cells are first transformed with the nucleic acid in vitro and then transplanted into the patient).

[0180] For example for *in vivo* gene therapy, an expression vector containing the nucleic acid is administered in such a manner that it becomes intracellular; i.e., by infection using a defective or attenuated retroviral or other viral vectors as described, for example in U.S. Patent 4,980,286 or by Robbins et al, Pharmacol. *Ther.* , **80** No. 1 pgs. 35-47 (1998).

[0181] The various retroviral vectors that are known in the art are such as those described in Miller et al, *Meth. Enzymol.* **217** pgs. 581-599 (1993) which have been modified to delete those retroviral sequences which are not required for packaging of the viral genome and subsequent integration into host cell DNA. Also adenoviral vectors can be used which are advantageous due to their ability to infect non-dividing cells and such high-capacity adenoviral vectors are described in Kochanek, *Human Gene Therapy*, **10**, pgs. 2451-2459 (1999). Chimeric viral vectors that can be used are those described by Reynolds

et al, *Molecular Medecine Today*, pgs. 25 –31 (1999). Hybrid vectors can also be used and are described by Jacoby et al, *Gene Therapy*, **4**, pgs. 1282-1283 (1997).

[0182] Direct injection of naked DNA or through the use of microparticle bombardment (e.g., Gene Gun®; Biolistic, Dupont). or by coating it with lipids can also be used in gene therapy. Cell-surface receptors/transfecting agents or through encapsulation in liposomes, microparticles or microcapsules or by administering the nucleic acid in linkage to a peptide which is known to enter the nucleus or by administering it in linkage to a ligand predisposed to receptor-mediated endocytosis (See, Wu & Wu, J. Biol. Chem., 262 pgs. 4429-4432 (1987)) can be used to target cell types which specifically express the receptors of interest.

[0183] In another embodiment a nucleic acid ligand compound may be produced in which the ligand comprises a fusogenic viral peptide designed so as to disrupt endosomes, thus allowing the nucleic acid to avoid subsequent lysosomal degradation. The nucleic acid may be targeted *in vivo* for cell specific endocytosis and expression by targeting a specific receptor such as that described in WO92/06180, WO93/14188 and WO 93/20221. Alternatively the nucleic acid may be introduced intracellularly and incorporated within the host cell genome for expression by homologous recombination. See, Zijlstra et al, *Nature*, **342,** pgs. 435-428 (1989).

[0184] In *ex vivo* gene a gene is transferred into cells *in vitro* using tissue culture and the cells are delivered to the patient by various methods such as injecting subcutaneously, application of the cells into a skin graft and the intravenous injection of recombinant blood cells such as hematopoietic stem or progenitor cells.

[0185] Cells into which a nucleic acid can be introduced for the purposes of gene therapy include, for example, epithelial cells, endothelial cells, keratinocytes, fibroblasts, muscle cells, hepatocytes and blood cells. The blood cells that can be used include, for example, T-lymphocytes, B-lymphocytes, monocytes, macrophages, neutrophils, eosinophils, megakaryotcytes, granulocytes, hematopoietic cells or progenitor cells and the like.

[0186] In yet another embodiment the present invention relates to protein chips or protein microarrays. It is well known in the art that microarrays can contain more than 10,000 spots of a protein that can be robotically deposited on a surface of a glass slide or nylon filter. The proteins attach covalently to the slide surface, yet retain their ability to interact with other proteins or small molecules in solution. In some instances the protein samples can be made to adhere to glass slides by coating the slides with an aldehyde-containing reagent that attaches to primary amines. A process for creating microarrays is described, for example by MacBeath and Schreiber in *Science*, Volume 289, Number 5485, pgs, 1760-1763 (2000) or Service, *Science*, Vol, 289, Number 5485 pg. 1673 (2000). An

apparatus for controlling, dispensing and measuring small quantities of fluid is described, for example, in U.S. Patent No. 6,112,605.

[0187] The present invention also provides a record of protein-protein interactions, PIM®'s, SID®'s and any data encompassed in the following Tables. It will be appreciated that this record can be provided in paper or electronic or digital form.

[0188] In order to fully illustrate the present invention and advantages thereof, the following specific examples are given, it being understood that the same are intended only as illustrative and in no way limitative.

EXAMPLES

EXAMPLE 1: Preparation of a collection of random-primed cDNA fragments

1.A. Collection preparation and transformation in Escherichia coli

1.A.1. Random-primed cDNA fragment preparation

[0189] For the human placenta mRNA sample, random-primed cDNA was prepared from 5 µg of polyA+ mRNA using a TimeSaver cDNA Synthesis Kit (Amersham Pharmacia Biotech) and with 5 µg of random N9-mers according to the manufacturer's instructions. Following phenolic extraction, the cDNA was precipitated and resuspended in water. The resuspended cDNA was phosphorylated by incubating in the presence of T4 DNA Kinase (Biolabs) and ATP for 30 minutes at 37°C. The resulting phosphorylated cDNA was then purified over a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.2. Ligation of linkers to blunt-ended cDNA

Oligonucleotide HGX931 (5' end phosphorylated) 1 µg/µl and HGX932 1µg/µl.

Sequence of the oligo HGX931: 5'-GGGCCACGAA-3' (SEQ ID NO. 417)

Sequence of the oligo HGX932 : 5'-TTCGTGGCCCCTG-3' (SEQ ID NO. 418)

[0190] Linkers were preincubated (5 minutes at 95°C, 10 minutes at 68°C, 15 minutes at 42°C) then cooled down at room temperature and ligated with cDNA fragments at 16°C overnight.

[0191] Linkers were removed on a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.3. Vector preparation

[0192] Plasmid pP6 (see Figure 10) was prepared by replacing the *SpeI/XhoI* fragment of pGAD3S2X with the double-stranded oligonucleotide:

5'CTAGCCATGGCCGCAGGGGCCGCGGCCGCACTAGTGGGGATCCTTAATTAAAGGGC
CACTGGGGCCCCC
GGTACCGGCGTCCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTTCCCGGTGAC
CCCGGGGGAGCT 3' (SEQ ID NO. 419)

[0193] The pP6 vector was successively digested with *Sfi*1 and *Bam*HI restriction enzymes (Biolabs) for 1 hour at 37°C, extracted, precipitated and resuspended in water. Digested plasmid vector backbones were purified on a separation column (Chromaspin TE 400, Clontech), according to the manufacturer's protocol.

1.A.4. Ligation between vector and insert of cDNA

[0194] The prepared vector was ligated overnight at 15°C with the blunt-ended cDNA described in section 2 using T4 DNA ligase (Biolabs). The DNA was then precipitated and resuspended in water.

1.A.5. Library transformation in *Escherichia coli*

[0195] The DNA from section 1.A.4 was transformed into Electromax DH10B electrocompetent cells (Gibco BRL) with a Cell Porator apparatus (Gibco BRL). 1 ml SOC medium was added and the transformed cells were incubated at 37°C for 1 hour. 9 mls of SOC medium per tube was added and the cells were plated on LB+ampicillin medium. The colonies were scraped with liquid LB medium, aliquoted and frozen at -80°C.

[0196] The obtained collection of recombinant cell clones is named HGXBPLARP1.

1.B. Collection transformation in *Saccharomyces cerevisiae*

[0197] The Saccharomyces cerevisiae strain (Y187 (MATα Gal4Δ Gal80Δ ade2-101, his3, leu2-3, -112, trp1-901, ura3-52 URA3::UASGAL1-LacZ Met)) was transformed with the cDNA library.

[0198] The plasmid DNA contained in E. coli were extracted (Qiagen) from aliquoted E. coli frozen cells (1.A.5.). Saccharomyces cerevisiae yeast Y187 in YPGlu were grown.

[0199] Yeast transformation was performed according to standard protocol (Giest et al. Yeast, 11, 355-360, 1995) using yeast carrier DNA (Clontech). This experiment leads to 10^4 to 5 x 10^4 cells/μg DNA. 2 x 10^4 cells were spread on DO-Leu medium per plate. The cells were aliquoted into vials containing 1 ml of cells and frozen at -80°C.

[0200] The obtained collection of recombinant cell clones is named HGXYPLARP1 (placenta).

1.C. Construction of bait plasmids

[0201] For fusions of the bait protein (listed in Table II) to the DNA-binding domain of the GAL4 protein of *S. cerevisiae*, bait fragments were cloned into plasmid pB6. For fusions of the bait protein to the DNA-binding domain of the LexA protein of *E. coli*, bait fragments were cloned into plasmid pB20.

[0202] Plasmid pB6 (see Figure 3) was prepared by replacing the *Nco*1/*Sal*1 polylinker fragment of pAS$\Delta\Delta$ with the double-stranded DNA fragment:

5'

CATGGCCGGACGGGCCGCGGCCGCACTAGTGGGGATCCTTAATTAAAGGGCCACTGG

GGCCCCC 3' (SEQ ID NO. 420)

3'

CGGCCTGCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTTCCCGGTGACCCCGG GGGAGCT 5' (SEQ ID NO. 421)

[0203] Plasmid pB20 (see Figure 6) was prepared by replacing the *Eco*RI*Pst*I polylinker fragment of pLex10 with the double-stranded DNA fragment:

5'

AATTCGGGGCCGGACGGGCCGCGGCCGCACTAGTGGGGATCCTTAATTAAGGGCCAC TGGGGCCCCTCGACCTGCA 3' (SEQ ID NO. 422)

3'

GCCCCGGCCTGCCCGGCGCCGGCGTGATCACCCCTAGGAATTAATTCCCGGTGACCC CGGGGAGCTGG 5' (SEQ ID NO. 423)

[0204] The amplification of the bait ORF was obtained by PCR using the Pfu proof-reading *Taq* polymerase (Stratagene), 10 pmol of each specific amplification primer and 200 ng of plasmid DNA as template.

[0205] The PCR program was set up as follows :

94°	45"	
94°	45"	
48°	45"	x30 cycles
72°	6'	
72°	10'	
15°	∞	

[0206] The amplification was checked by agarose gel electrophoresis.

[0207] The PCR fragments were purified with Qiaquick column (Qiagen) according to the manufacturer's protocol.

[0208] Purified PCR fragments were digested with adequate restriction enzymes. The PCR fragments were purified with Qiaquick column (Qiagen) according to the manufacturer's protocol.

[0209] The digested PCR fragments were ligated into an adequately digested and dephosphorylated bait vector (pB6 or pB20) according to standard protocol (Sambrook *et al.*) and were transformed into competent bacterial cells. The cells were grown, the DNA extracted and the plasmid was sequenced.

Example 2 : Screening the collection with the two-hybrid in yeast system

2.A. The mating protocol

[0210] The mating two-hybrid in yeast system (as described by Legrain et al., *Nature Genetics,* vol. 16, 277-282 (1997), *Toward a functional analysis of the yeast genome through*

exhaustive two-hybrid screens) was used for its advantages but one could also screen the cDNA collection in classical two-hybrid system as described in Fields *et al.* or in a yeast reverse two-hybrid system.

[0211] The mating procedure allows a direct selection on selective plates because the two fusion proteins are already produced in the parental cells. No replica plating is required.

[0212] This protocol was written for the use of the library transformed into the Y187 strain.

[0213] For bait proteins fused to the DNA-binding domain of GAL4, bait-encoding plasmids were first transformed into *S. cerevisiae* (CG1945 strain (MATa Gal4-542 Gal180-538 ade2-101 his3Δ200, leu2-3,112, trp1-901, ura3-52, lys2-801, URA3::GAL4 17mers (X3)-CyC1TATA-LacZ, LYS2::GAL1UAS-GAL1TATA-HIS3 CYH^R)) according to step 1.B. and spread on DO-Trp medium.

[0214] For bait proteins fused to the DNA-binding domain of LexA, bait-encoding plasmids were first transformed into *S. cerevisiae* (L40Δgal4 strain (MATa ade2, trp1-901, leu2 3,112, lys2-801, his3Δ200, LYS2::$(lexAop)_4$-HIS3, ura3-52::URA3 $(lexAop)_8$-LacZ, GAL4::Kan^R)) according to step 1.B. and spread on DO-Trp medium.

Day 1, morning : preculture

[0215] The cells carrying the bait plasmid obtained at step 1.C. were precultured in 20 ml DO-Trp medium and grown at 30°C with vigorous agitation.

Day 1, late afternoon : culture

[0216] The OD_{600nm} of the DO-Trp pre-culture of cells carrying the bait plasmid pre-culture was measured. The OD_{600nm} must lie between 0.1 and 0.5 in order to correspond to a linear measurement.50 ml DO-Trp at OD_{600nm} 0.006/ml was inoculated and grown overnight at 30°C with vigorous agitation.

Day 2 : mating

medium and plates

1 YPGlu 15cm plate

50 ml tube with 13 ml DO-Leu-Trp-His

100 ml flask with 5 ml of YPGlu

8 DO-Leu-Trp-His plates

2 DO-Leu plates

2 DO-Trp plates

2 DO-Leu-Trp plates

[0217] The OD_{600nm} of the DO-Trp culture was measured. It should be around 1.

[0218] For the mating, twice as many bait cells as library cells were used. To get a good mating efficiency, one must collect the cells at 10^8 cells per cm^2.

[0219] The amount of bait culture (in ml) that makes up 50 OD_{600nm} units for the mating with the prey library was estimated.

[0220] A vial containing the HGXYCDNA1 library was thawed slowly on ice. 1.0ml of the vial was added to 5 ml YPGlu. Those cells were recovered at 30°C, under gentle agitation for 10 minutes.

Mating

[0221] The 50 OD_{600nm} units of bait culture was placed into a 50 ml falcon tube.

[0222] The HGXYCDNA1 library culture was added to the bait culture, then centrifuged, the supernatant discarded and resuspended in 1.6ml YPGlu medium.

[0223] The cells were distributed onto two 15cm YPGlu plates with glass beads. The cells were spread by shaking the plates. The plate cells-up at 30°C for 4h30min were incubated.

Collection of mated cells

[0224] The plates were washed and rinsed with 6ml and 7ml respectively of DO-Leu-Trp-His. Two parallel serial ten-fold dilutions were performed in 500µl DO-Leu-Trp-His up to 1/10,000. 50µl of each 1/10000 dilution was spread onto DO-Leu and DO-trp plates and 50µl of each 1/1000 dilution onto DO-Leu-Trp plates. 22.4ml of collected cells were spread in 400µl aliquots on DO-Leu-Trp-His+Tet plates.

Day 4

[0225] Clones that were able to grow on DO-Leu-Trp-His+Tetracyclin were then selected. This medium allows one to isolate diploid clones presenting an interaction.

[0226] The His+ colonies were counted on control plates.

[0227] The number of His+ cell clones will define which protocol is to be processed :

[0228] Upon 60.10^6 Trp+Leu+ colonies :

- if the number His+ cell clones <285 : then use the process luminometry protocol on all colonies
- if the number of His+ cell clones > 285 and <5000: then process via overlay and then luminometry protocols on blue colonies (2.B and 2.C).
- if number of His+ cell clones >5000 : repeat screen using DO-Leu-Trp-His+Tetracyclin plates containing 3-aminotriazol.

2.B. The X-Gal overlay assay

[0229] The X-Gal overlay assay was performed directly on the selective medium plates after scoring the number of His^+ colonies.

Materials

[0230] A waterbath was set up. The water temperature should be 50°C.

0.5 M Na_2HPO_4 pH 7.5.

1.2% Bacto-agar.

2% X-Gal in DMF.

Overlay mixture : 0.25 M Na_2HPO_4 pH7.5, 0.5% agar, 0.1% SDS, 7% DMF (LABOSI), 0.04% X-Gal (ICN). For each plate, 10 ml overlay mixture are needed.

DO-Leu-Trp-His plates.

Sterile toothpicks.

Experiment

[0231] The temperature of the overlay mix should be between 45°C and 50°C. The overlay-mix was poured over the plates in portions of 10 ml. When the top layer was settled, they were collected. The plates were incubated overlay-up at 30°C and the time was noted. Blue colonies were checked for regularly. If no blue colony appeared, overnight incubation was performed. Using a pen the number of positives was marked. The positives colonies were streaked on fresh DO-Leu-Trp-His plates with a sterile toothpick.

2.C. The luminometry assay

[0232] His+ colonies were grown overnight at 30°C in microtiter plates containing DO-Leu-Trp-His+Tetracyclin medium with shaking. The day after, the overnight culture was diluted 15 times into a new microtiter plate containing the same medium and was incubated for 5 hours at 30°C with shaking. The samples were diluted 5 times and read OD_{600nm}. The samples were diluted again to obtain between 10,000 and 75,000 yeast cells/well in 100 µl final volume.

[0233] Per well, 76 µl of One Step Yeast Lysis Buffer (Tropix) was added, 20 µl Sapphirell Enhancer (Tropix), 4 µl Galacton Star (Tropix) and incubated 40 minutes at 30°C. The β-Gal read-out (L) was measured using a Luminometer (Trilux, Wallach). The value of (OD_{600nm} x L) was calculated and interacting preys having the highest values were selected.

[0234] At this step of the protocol, diploid cell clones presenting interaction were isolated. The next step was now to identify polypeptides involved in the selected interactions.

Example 3 : Identification of positive clones

3.A. PCR on yeast colonies

Introduction

[0235] PCR amplification of fragments of plasmid DNA directly on yeast colonies is a quick and efficient procedure to identify sequences cloned into this plasmid. It is directly derived from

[0236] a published protocol (Wang H. et al., *Analytical Biochemistry,* **237**, 145-146, (1996)). However, it is not a standardized protocol and it varies from strain to strain and it is dependent of experimental conditions (number of cells, *Taq* polymerase source, etc). This protocol should be optimized to specific local conditions.

Materials

[0237] For 1 well, PCR mix composition was :

32.5 µl water,

5 µl 10X PCR buffer (Pharmacia),

1 µl dNTP 10 mM,

0.5 µl *Taq* polymerase (5u/µl) (Pharmacia),

0.5 µl oligonucleotide ABS1 10 pmole/µl: 5'-GCGTTTGGAATCACTACAGG-3',(SEQ ID NO. 424)

0.5 µl oligonucleotide ABS2 10 pmole/µl: 5'-CACGATGCACGTTGAAGTG-3'.(SEQ ID NO. 425)

1 N NaOH.

Experiment

[0238] The positive colonies were grown overnight at 30°C on a 96 well cell culture cluster (Costar), containing 150 µl DO-Leu-Trp-His+Tetracyclin with shaking. The culture was resuspended and 100 µl was transferred immediately on a Thermowell 96 (Costar) and centrifuged for 5 minutes at 4,000 rpm at room temperature. The supernatant was removed. 5 µl NaOH was added to each well and shaken for 1 minute.

[0239] The Thermowell was placed in the thermocycler (GeneAmp 9700, Perkin Elmer) for 5 minutes at 99.9°C and then 10 minutes at 4°C. In each well, the PCR mix was added and shaken well.

[0240] The PCR program was set up as followed :

94°C	3 minutes	
94°C	30 seconds	x 35 cycles
53°C	1 minute 30 seconds	
72°C	3 minutes	
72°C	5 minutes	
15°C	∞	

[0241] The quality, the quantity and the length of the PCR fragment was checked on an agarose gel. The length of the cloned fragment was the estimated length of the PCR fragment minus 300 base pairs that corresponded to the amplified flanking plasmid sequences.

[0242] 3.B. Plasmids rescue from yeast by electroporation

Introduction

[0243] The previous protocol of PCR on yeast cell may not be successful, in such a case, plasmids from yeast by electroporation can be rescued. This experiment allows the recovery of prey plasmids from yeast cells by transformation of *E. coli* with a yeast cellular extract. The prey plasmid can then be amplified and the cloned fragment can be sequenced.

Materials

[0244] Plasmid rescue

Glass beads 425-600 μm (Sigma)Phenol/chloroform (1/1) premixed with isoamyl alcohol (Amresco)

Extraction buffer : 2% Triton X100, 1% SDS, 100 mM NaCl, 10 mM TrisHCl pH 8.0, 1 mM EDTA pH 8.0.

Mix ethanol/NH_4Ac : 6 volumes ethanol with 7.5 M NH_4 Acetate, 70% Ethanol and yeast cells in patches on plates.

Electroporation

SOC medium

M9 medium

Selective plates : M9-Leu+Ampicillin

2 mm electroporation cuvettes (Eurogentech)

Experiment

Plasmid rescue

[0245] The cell patch on DO-Leu-Trp-His was prepared with the cell culture of section 2.C. The cell of each patch was scraped into an Eppendorf tube, 300 μl of glass beads was added in each tube, then, 200 μl extraction buffer and 200 μl phenol:chloroform:isoamyl alcohol (25:24:1) was added.

[0246] The tubes were centrifuged for 10 minutes at 15,000 rpm.

[0247] 180 μl supernatant was transferred to a sterile Eppendorf tube and 500 μl each of ethanol/NH_4Ac was added and the tubes were vortexed. The tubes were centrifuged for 15 minutes at 15,000 rpm at 4°C. The pellet was washed with 200 μl 70% ethanol and the ethanol was removed and the pellet was dried. The pellet was resuspended in 10 μl water. Extracts were stored at -20°C.

Electroporation

Materials :

[0248] Electrocompetent MC1066 cells prepared according to standard protocols (Sambrook et al. *supra*).

1 μl of yeast plasmid DNA-extract was added to a pre-chilled Eppendorf tube, and kept on ice.

1 μl plasmid yeast DNA-extract sample was mixed and 20 μl electrocompetent cells was added and transferred in a cold electroporation cuvette.Set the Biorad electroporator on 200 ohms resistance, 25 μF capacity; 2.5 kV. Place the cuvette in the cuvette holder and electroporate.

1 ml of SOC was added into the cuvette and the cell-mix was transferred into a sterile Eppendorf tube. The cells were recovered for 30 minutes at 37°C, then spun down for

1 minute at 4,000 x g and the supernatant was poured off. About 100 µl medium was kept and used to resuspend the cells and spread them on selective plates (e.g., M9-Leu plates). The plates were then incubated for 36 hours at 37°C.

[0249] One colony was grown and the plasmids were extracted. Check for the presence and size of the insert through enzymatic digestion and agarose gel electrophoresis. The insert was then sequenced.

Example 4 : Protein-protein interaction

[0250] For each bait, the previous protocol leads to the identification of prey polynucleotide sequences. Using a suitable software program (e.g., Blastwun, available on the Internet site of the University of Washington : http://bioweb.pasteur.fr/seqanal/interfaces/blastwu.html) the identity of the mRNA transcript that is encoded by the prey fragment may be determined and whether the fusion protein encoded is in the same open reading frame of translation as the predicted protein or not.

[0251] Alternatively, prey nucleotide sequences can be compared with one another and those which share identity over a significant region (60nt) can be grouped together to form a contiguous sequence (Contig) whose identity can be ascertained in the same manner as for individual prey fragments described above.

Example 5 : Identification of SID®

[0252] By comparing and selecting the intersection of all isolated fragments that are included in the same polypeptide, one can define the Selected Interacting Domain (SID®) as illustrated in Figure 15. The SID® is illustrated in Table III .

Example 6 : Identification of PIM®

[0253] The PIM® is then constructed using methods known in the art as exemplified in Figure 16.

Example 7 : Making of polyclonal and monoclonal antibodies

[0254] The protein-protein complex of columns 1 and 3 of Table II was injected into mice and polyclonal and monoclonal antibodies were made following the procedure set forth in Sambrook et al. (*supra*).

[0255] More specifically, mice are immunized with an immunogen comprising Table II complexes conjugated to keyhole limpet hemocyanin using glutaraldehyde or EDC as is well known in the art. The complexes can also be stabilized by crosslinking as described in WO 00/37483. The immunogen is then mixed with an adjuvant. Each mouse receives four injections of 10 ug to 100 ug of immunogen, and after the fourth injection, blood samples are taken from the mice to determine if the serum contains antibodies to the immunogen. Serum titer is determined by ELISA or RIA. Mice with sera indicating the presence of antibody to the immunogen are selected for hybridoma production.

[0256] Spleens are removed from immune mice and single-cell suspension is prepared (Harlow et al 1988). Cell fusions are performed essentially as described by Kohler et al (1976). Briefly, P365.3 myeloma cells (ATTC Rockville, Md) or NS-1 myeloma cells are fused with spleen cells using polyethylene glycol as described by Harlow et al (1989). Cells are plated at a density of 2 x 10^5 cells/well in 96-well tissue culture plates. Individual wells are examined for growth and the supernatants of wells with growth are tested for the presence of the complex-specific antibodies by ELISA or RIA using one of the proteins set forth in Table II as a target protein. Cells in positive wells are expanded and subcloned to establish and confirm monoclonality.

[0257] Clones with the desired specificities are expanded and grown as ascites in mice or in a hollow fiber system to produce sufficient quantities of antibodies for characterization and assay development. Antibodies are tested for binding to one of the proteins in Table II, to determine which are specific for the Table II complexes as opposed to those that bind to the individual proteins. More specifically, antibodies are tested for binding to bait polypeptide of column 1 of Table II alone or to prey polypeptide of column 3 of Table II alone, to determine which are specific for the protein-protein complex of columns 1 and 3 of Table II as opposed to those that bind to the individual proteins.

[0258] Monoclonal antibodies against each of the complexes set forth in columns 1 and 3 of Table II are prepared in a similar manner by mixing specified proteins together, immunizing an animal, fusing spleen cells with myeloma cells and isolating clones which produce antibodies specific for he protein complex, but not for individual proteins.

Example 8: Modulating compounds/PIM screening

[0259] Each specific protein-protein complex of columns 1 and 3 of Table II may be used to screen for modulating compounds.

[0260] One appropriate construction for this modulating compound screening may be:

- bait polynucleotide inserted in pB6 or pB20;- prey polynucleotide inserted in pP6;
- transformation of these two vectors in a permeable yeast cell;
- growth of the transformed yeast cell on medium containing compound to be tested;
- and observation of the growth of the yeast cells.

[0261] The following results obtained from these Examples, as well as the teachings in the specification are set forth in the Tables below.

[0262] While the invention has been described in terms of the various preferred embodiments, the skilled artisan will appreciate that various modifications, substitutions, omissions and changes may be made without departing from the scope thereof. Accordingly, it is intended that the present invention be limited by the scope of the following claims, including equivalents thereof.

[0263] All patent and non-patent publications cited in this specification, including the websites set forth onpages 8, 13 and 33, are indicative of the level of skill of those skilled in the art to which this invention pertains. All these publications and patent applications are herein incorporated by reference to the same extent as if each individual publication or patent application was specifically and individually indicated to be incorporated herein by reference.

Table I : Bait sequences

1: Bait name	2: Nucleic acid ID No.	3: Nucleic acid sequence	4: Nucleic Positions	5: Amino-acid ID No.	6: Amino-acid Sequence
Shigella ospB	1	ATGAATTTAGATGGTGTTAGACCATACTGTAGAA TAGTCAATAAAAAGAATGAAAGCATATCAGATAT TGCATTTGCACATATAATAAAAAGGGTAAAAAAT TCATCATGTACTCACCCAAAAGCAGCATTGGTTT TTTTAGGAGAGAAAGGTTTTTGTGATAGCAATGA TGTTCTATCTATTATGGGACAACAAATACCAAGA GTATTTAAGAACAAGATGTTATATGATTATGTTTT TAAAAATGAAAAAAGTAAAAATGATTTTCTAAAAA TGGCTGAATCATGGCTACCACAGAGTGAACCAA TAGTAATAAATAATGATGATGACGCATTGAATGC TGCTGCTTATTTTTCTGTAAAAAAAGCGAAAATA AAAACAGTAAACGATACTGATTTTAAAGAGTATA ATAAGGTTTATATTCTTGGGCACGGTAGTCCTG GTTCTCATCAATTAGGCCTTGGTTCGGAACTTAT TGATGTACAAACAATCATTTCAAGAATGAAAGAC TGTGGTATTCTAAATGTGAAAGATATCCGTTTTA CTTCATGCGGCTCCGCTGATAAAGTGGCTCCTA AAAATTTTAACAATGCCCCTGCTGAAAGTCTTTC TTGTATCCTTAACTCTCTGCCTTTTTTTAAGGAAA AAGAATCTTTGCTAGAGCAGATAAAAAAACACCT TGAAAACGATGAGTCATTGAGTGATGGTCTAAA AATATCCGGCTATCATGGATATGGAGTTCACTAT GGTCAAGAGCTTTTTCCCTACTCACATTATCGTT CAACTTCAATTCCTGCTGATCCGGAGCATACAG TAAAAAGAAGCTCTCAGAAAAAGACTTTTATTAT TAATAAAGAACTGGATTAGTATAAAATTTTTAACC TATAG	[1-888]	8	MNLDGVRPYCRIVNKKNESISDIAFAHIIKRVKNS SCTHPKAALVFLGEKGFCDSNDVLSIMGQQIPR VFKNKMLYDYVFKNEKSKNDFLKMAESWLPQS EPIVINNDDDALNAAAYFSVKKAKIKTVNDTDFKE YNKVYILGHGSPGSHQLGLGSELIDVQTIISRMK DCGILNVKDIRFTSCGSADKVAPKNFNNAPAESL SCILNSLPFFKEKESLLEQIKKHLENDESLSDGLK ISGYHGYGVHYGQELFPYSHYRSTSIPADPEHT VKRSSQKKTFIINKELD*YKIFNL*
Shigella ospD1	2	ATGTCAATAAATAACTATGGATTACATCCAGCAA ACAACAAAAATATGCACCTAATAATAGGCAGCAA TACTGCTAATGAAAATAAAGGAATGAAAAATAAT	[1-711]	9	MSINNYGLHPANNKNMHLIIGSNTANENKGMKN NIINVTNTAISHAINEEKSGGGYSGVSFRKLAKIQ NISIPTKNNKEYNRHNLFSLIWHGNADAARKYSE

		ATCATTAACGTGACAAATACCGCTATATCCCACG CCATCAATGAAGAAAAATCAGGGGGGGGATATA GTGGTGTTTCTTTCAGAAAATTGGCCAAAATACA GAACATATCCATTCCGACAAAGAATAATAAGGA GTATAACCGCCATAATTTGTTTTCATTGATTTGG CATGGAAATGCCGATGCAGCGCGTAAATACAGT GAATCGCTGTTGGCAGCCGAAATACCCAAAGAG GAAAAACTAGAAGTTCTTGCAGCACGAAATAAT GCTGGGGAATCTGCTTTGTTCATAGCTCTTCAA GAAGGTCATTCCGCTGCGATTCAAGCTTATGGA GATTTTATTAAAACTTTTGATTTATCACCAAAAGA AACGATTAAACTATTGGATGTAAGAGATAATGAG GGGTTACCAGGATTATTTCTGGCCGCAGGGAAA GGGAATATCGAGGCTATGATGGCATATATAAAT ATATGCCATCATAGTGGGATAAAACTTACAGAAA TAGCAGACAGACTTAACAATAATGAACAAGACAT GTTTAATATTATTTCTGACAAAATACAAGAGTTGT TTTAAGTGTGCTAAATAGCTGCAAAGAATTGCAC TTAG			SLLAAEIPKEEKLEVLAARNNAGESALFIALQEGH SAAIQAYGDFIKTFDLSPKETIKLLDVRDNEGLPG LFLAAGKGNIEAMMAYINICHHSGIKLTEIADRLN NNEQDMFNIISDKIQELF*VC*IAAKNCT*
Shigella ospC1	3	ATGAATATATCAGAAACACTGAACTCAGCAAATA CCCAATGCAATATAGATTCTATGGATAACAGATT ACATACATTGTTTCCAAAAGTGACATCAGTGCGA AACGCTGCACAACAAACTATGCCAGATGAAAAA AATTTAAAAGATAGTGCAAATATTATTAAAGATTT CTTTAGGAAAACTATAGCAGCACAGAGTTATAGT AGAATGTTCTCTCAAGGCTCTAACTTTAAATCTT TAAATATAGCAATTGATGCACCATCAGACGCTAA AGCCTCATTTAAGGCTATTGAGCACCTTGACAG ATTATCGAAGCATTATATATCTGAAATAAGGGAA AAACTTCATCCTCTTTCTGCAGAGGAACTCAATT TGCTTTCGCTAATTATTAATTCTGATTTAATCTTC AGACATCAAAGTAATTCTGATTTGTCTGATAAAA TTTTAAACATTAAGTCATTCAATAAAATTCAGTCT GAAGGAATATGCACAAAACGAAACACATACGCT GATGATATAAAAAAAATAGCTAATCATGACTTTG	[1-1434]	10	MNISETLNSANTQCNIDSMDNRLHTLFPKVTSVR NAAQQTMPDEKNLKDSANIIKDFFRKTIAAQSYS RMFSQGSNFKSLNIAIDAPSDAKASFKAIEHLDR LSKHYISEIREKLHPLSAEELNLLSLIINSDLIFRHQ SNSDLSDKILNIKSFNKIQSEGICTKRNTYADDIK KIANHDFVFFGVEISNHQKKHPLNTKHHTVDFGA NAYIIDHDSPYGYMTLTDHFDNAIPPVFYHEHQS FLDKFSEVNKEVSRYVHGSKGIIDVPIFNTKDMK LGLGLYLIDFIRKSEDQSFKEFCYGKNLAPVDLD RIINFVFQPEYHIPRMVSTENFKKVKIREISLEEAV TASNYEEINKQVTNKKIALQALFLSITNQKEDVAL YILSNFEITRQDVISIKHELYDIEYLLSAHNSSCKV LEYFINKGLVDVNTKFKKTNSGDCMLDNAIKYEN AEMIKLLLKYGATSDNKYI*SKLNIV*

		TGTTTTTTGGCGTTGAAATCTCTAACCATCAGAA AAAACACCCCCTGAATACAAAACATCACACTGTT GATTTTGGTGCAAATGCGTATATCATTGATCATG ACTCTCCATATGGATATATGACATTAACCGATCA CTTTGATAATGCTATTCCACCTGTTTTTTACCAT GAGCACCAATCATTTTTAGATAAATTTTCAGAGG TTAATAAAGAAGTTAGTCGATACGTACATGGAAG TAAAGGAATTATAGATGTACCAATATTCAATACT AAAGATATGAAGTTAGGGCTCGGATTATACCTG ATTGACTTTATTAGAAAAAGTGAAGACCAAAGCT TCAAGGAGTTTTGCTATGGAAAAAATCTTGCCCC TGTGGATCTGGATAGAATCATAAACTTTGTTTTT CAGCCAGAGTACCATATACCTAGGATGGTAAGT ACAGAAAACTTCAAAAAAGTTAAGATTAGAGAAA TATCCTTAGAGGAGGCTGTTACAGCATCTAATTA CGAAGAAATTAACAAGCAGGTCACTAACAAAAA AATTGCTCTCCAGGCTCTTTTTCTTTCGATTACT AATCAAAAAGAGGATGTCGCCTTATATATATTAT CTAATTTTGAGATAACTAGACAAGATGTTATTTC CATAAAGCATGAGTTGTATGATATTGAGTATCTA CTTAGCGCTCATAATTCAAGCTGTAAAGTACTTG AGTATTTTATCAATAAGGGATTGGTTGATGTAAA CACAAAGTTCAAAAAAACTAATAGTGGGGATTGT ATGTTGGATAACGCAATAAAATATGAGAATGCAG AAATGATAAAACTATTATTGAAATATGGTGCAAC ATCTGACAATAAATATATTTAATCAAAATTGAATA TCGTTTAG			
Shigella ipaD	4	ATGAATATAACAACTCTGACTAATAGTATTTCCA CCTCATCATTCAGTCCAAACAATACCAACGGTTC ATCAACCGAAACAGTTAATTCTGATATAAAAACA ACGACCAGTTCTCATCCTGTAAGTTCCCTTACTA TGCTCAACGACACCCTTCATAATATCAGAACAAC AAATCAGGCATTAAAGAAAGAGCTTTCACAAAAA ACGTTGACTAAAACATCGCTAGAAGAAATAGCAT TACATTCATCTCAGATTAGCATGGATGTAAATAA	[1-1005]	11	MNITTLTNSISTSSFSPNNTNGSSTETVNSDIKTT TSSHPVSSLTMLNDTLHNIRTTNQALKKELSQKT LTKTSLEEIALHSSQISMDVNKSAQLLDILSRNEY PINKDARELLHSAPKEAELDGDQMISHRELWAKI ANSINDINEQYLKVYEHAVSSYTQMYQDFSAVLS SLAGWISPGGNDGNSVKLQVNSLKKALEELKEK YKDKPLYPANNTVSQEQANKWLTELGGTIGKVS QKNGGYVVSINMTPIDNMLKSLDNLGGNGEVVL

		ATCCGCTCAACTATTGGATATTCTTTCCAGGAAC GAATATCCAATTAATAAAGACGCAAGAGAATTAT TACATTCAGCCCCGAAAGAAGCCGAGCTTGATG GAGATCAAATGATATCTCATAGAGAACTGTGGG CTAAAATTGCAAACTCCATCAATGATATTAATGA ACAGTATCTGAAAGTATATGAACATGCCGTTAGT TCATATACTCAAATGTATCAAGATTTTAGCGCTG TTCTTTCCAGTCTTGCCGGCTGGATCTCTCCCG GAGGTAACGACGGAAACTCCGTGAAATTACAAG TCAACTCGCTTAAAAAGGCATTGGAAGAACTCA AGGAAAAATATAAAGATAAACCGCTATATCCAGC AAATAATACTGTTAGTCAGGAACAAGCAAATAAA TGGCTTACAGAATTAGGTGGAACAATCGGCAAG GTATCTCAAAAAAACGGGGGATATGTTGTCAGT ATAAACATGACCCCAATAGACAATATGTTAAAAA GCTTAGATAATCTAGGTGGAAATGGCGAGGTTG TGCTAGATAATGCAAAATATCAGGCATGGAATG CCGGATTCTCTGCCGAAGATGAAACAATGAAAA ATAATCTTCAAACTTTAGTTCAAAAATACAGTAAT GCCAATAGTATTTTTGATAATTTAGTAAAGGTTTT GAGTAGTACAATAAGCTCATGTACAGATACAGAT AAACTTTTTCTCCATTTCTGAGGTGCG			DNAKYQAWNAGFSAEDETMKNNLQTLVQKYSN ANSIFDNLVKVLSSTISSCTDTDKLFLHF*GA
Shigella ipaC	5	ATGTTGCAAAAGCAATTTTGCAACAAACTACTGC TTGATACAAATAAGGAGAATGTTATGGAAATTCA AAACACAAAACCAACCCAGACTTTATATACAGAT ATATCCACAAAACAAACTCAAAGTTCTTCCGAAA CACAAAAATCACAAAATTATCAGCAGATTGCAGC GCATATTCCACTTAATGTCGGTAAAAATCCCGTA TTAACAACCACATTAAATGATGATCAACTTTTAAA GTTATCAGAGCAGGTTCAGCATGATTCAGAAAT CATTGCTCGCCTTACTGACAAAAAGATGAAAGAT CTTTCAGAGATGAGTCACACCCTTACTCCAGAG AACACTCTGGATATTTCCAGTCTTTCTTCTAATG CTGTTTCTTTAATTATTAGTGTAGCCGTTCTACTT TCTGCTCTCCGCACTGCAGAAACTAAATTGGGC	[1-1149]	12	MLQKQFCNKLLLDTNKENVMEIQNTKPTQTLYT DISTKQTQSSSETQKSQNYQQIAAHIPLNVGKNP VLTTTLNDDQLLKLSEQVQHDSEIIARLTDKKMK DLSEMSHTLTPENTLDISSLSSNAVSLIISVAVLLS ALRTAETKLGSQLSLIAFDATKSAAENIVRQGLA ALSSSITGAVTQVGITGIGAKKTHSGISDQKGALR KNLATAQSLEKELAGSKLGLNKQIDTNITSPQTN SSTKFLGKNKLAPDNISLSTEHKTSLSSPDISLQD KIDTQRRTYELNTLSAQQKQNIGRATMETSAVA GNISTSGGRYASALEEEEQLISQASSKQAEEAS QVSKEASQATNQLIQKLLNIIDSINQSKNSAASQI AGNIRA*

		TCTCAATTGTCATTGATTGCGTTCGATGCTACAA AATCAGCTGCAGAGAACATTGTTCGGCAAGGCC TGGCAGCCCTATCATCAAGCATTACTGGAGCAG TCACACAAGTAGGTATAACGGGTATCGGTGCCA AAAAAACGCATTCAGGGATTAGCGACCAAAAAG GAGCCTTAAGAAAGAACCTTGCCACTGCTCAAT CTCTTGAAAAAGAGCTTGCAGGTTCTAAATTAGG GTTAAATAAACAAATAGATACAAATATCACCTCA CCACAAACTAACTCTAGCACAAAATTTTTAGGTA AAAATAAACTGGCGCCAGATAATATATCCCTGTC AACTGAACATAAAACTTCTCTTAGTTCTCCCGAT ATTTCTTTGCAGGATAAAATTGACACCCAGAGAA GAACTTACGAGCTCAATACCCTTTCTGCGCAGC AAAAACAAAACATTGGCCGTGCAACAATGGAAA CATCAGCCGTTGCTGGTAATATATCCACATCAG GAGGGCGTTATGCATCTGCTCTTGAAGAAGAAG AACAACTAATCAGTCAGGCCAGCAGTAAACAAG CAGAGGAAGCATCCCAAGTATCTAAAGAAGCAT CCCAAGCGACAAATCAATTAATACAAAAATTATT GAATATAATTGACAGCATCAACCAATCAAAGAAT TCGGCAGCCAGTCAGATTGCTGGTAACATTCGA GCTTAA			
Shigella ipaH9.8	6	ATGTTACCGATAAATAATAACTTTTCATTGCCCC AAAATTCTTTTTATAACACTATTTCCGGTACATAT GCTGATTACTTTTCAGCATGGGATAAATGGGAA AAACAAGCGCTCCCCGGTGAAGAGCGTGATGA GGCTGTCTCCCGACTTAAAGAATGTCTTATCAAT AATTCCGATGAACTTCGACTGGACCGTTTAAATC TGTCCTCGCTACCTGACAACTTACCAGCTCAGA TAACGCTGCTCAATGTATCATATAATCAATTAAC TAACCTACCTGAACTGCCTGTTACGCTAAAAAAA TTATATTCCGCCAGCAATAAATTATCAGAATTGC CCGTGCTACCTCCTGCGCTGGAGTCACTTCAGG TACAACACAATGAGCTGGAAAACCTGCCAGCTT TACCCGATTCGTTATTGACTATGAATATCAGCTA	[1-1022]	13	MLPINNNFSLPQNSFYNTISGTYADYFSAWDKW EKQALPGEERDEAVSRLKECLINNSDELRLDRL NLSSLPDNLPAQITLLNVSYNQLTNLPELPVTLKK LYSASNKLSELPVLPPALESLQVQHNELENLPAL PDSLLTMNISYNEIVSLPSLPQALKNLRATRNFLT ELPAFSEGNNPVVREYFFDRNQISHIPESILNLR NECSIHISDNPLSSHALQALQRLTSSPDYHGPRI YFSMSDGQQNTLHRPLADAVTAWFPENKQSDV SQIWHAFEHEEHANTFSAFLDRLSDTVSARNTS GFREQVAAWLEKLSASAELRQQSFAVAADATES CEDR

		TAACGAAATAGTCTCCTTACCATCGCTCCCACA GGCTCTTAAAAATCTCAGAGCGACCCGTAATTT CCTCACTGAGCTACCAGCATTTTCTGAGGGAAA TAATCCCGTTGTCAGAGAGTATTTTTTTGATAGA AATCAGATAAGTCATATCCCGGAAAGCATTCTTA ATCTGAGGAATGAATGTTCAATACATATTAGTGA TAACCCATTATCATCCCATGCTCTGCAAGCCCT GCAAAGATTAACCTCTTCGCCGGACTACCACGG CCCACGGATTTACTTCTCCATGAGTGACGGACA ACAGAATACACTCCATCGCCCCCTGGCTGATGC CGTGACAGCATGGTTCCCGGAAAACAAACAATC TGATGTATCACAGATATGGCATGCTTTTGAACAT GAAGAGCATGCCAACACCTTTTCCGCGTTCCTT GACCGCCTTTCCGATACCGTCTCTGCACGCAAT ACCTCCGGATTCCGTGAACAGGTCGCTGCATGG CTGGAAAAACTCAGTGCCTCTGCGGAGCTTCGA CAGCAGTCTTTCGCTGTTGCTGCTGATGCCACT GAGAGCTGTGAGGACCGTGT			
Shigella ospG	7	ATGAAAATAACATCTACCATTATTCAAACACCTTT TCCATTTGAGAATAATAATTCTCATGCTGGCATA GTAACGGAGCCCATTCTCGGTAAGTTAATAGGT CAGGGGTCGACAGCAGAAATCTTTGAAGATGTG AATGATTCATCTGCTTTGTATAAAAAGTATGATC TTATTGGCAACCAGTACAATGAGATTCTGGAAAT GGCTTGGCAAGAATCTGAGCTTTTTAATGCTTTT TATGGCGATGAAGCATCCGTTGTTATACAGTAT GGCGGAGATGTGTACCTCCGAATGCTGCGCGT GCCTGGGACTCCCCTTAGTGACATTGATACAGC TGATATCCCTGATAATATAGAGAGCCTTTATCTA CAGTTGATATGTAAATTGAATGAGTTGAGTATAA TCCATTACGATCTTAATACAGGTAATATGCTGTA TGATAAAGAAAGTGAAAGTTTATTCCCAATAGAT TTTCGCAATATTTATGCTGAATATTACGCTGCAA CCAAAAAAGATAAAGAGATTATCGACCGACGAT TACAAATGCGTACAAATGATTTTTATTCGTTATTA	[1-612]	14	MKITSTIIQTPFPFENNNSHAGIVTEPILGKLIGQG STAEIFEDVNDSSALYKKYDLIGNQYNEILEMAW QESELFNAFYGDEASVVIQYGGDVYLRMLRVPG TPLSDIDTADIPDNIESLYLQLICKLNELSIIHYDLN TGNMLYDKESESLFPIDFRNIYAEYYAATKKDKEI IDRRLQMRTNDFYSLLNRKYL*TYLLML*

		AACAGGAAATATTTATAGACGTATTTGTTGATGC TATAA			

Table II : Bait-prey interactions

1: Bait name	2: Bait nucleic acid SEQ ID No.	3: Prey name
Shigella ospB	1	prey44074 (JM5; prey44078) hJM5
Shigella ospB	1	prey67804 (LOC91851) hhypothetical proteinXP_041083
Shigella ospB	1	prey67806
Shigella ospB	1	prey67810 (FBXO3 FBX3 DKFZp564B092 FBA) hFBXO3
Shigella ospB	1	prey5237 (NONO NRB54 NMT55 P54NRB) hNONO
Shigella ospB	1	prey67661 (CAPN2 CANPL2 CANPML) hCAPN2
Shigella ospB	1	prey34730 (LMO4; prey34731) hLMO4
Shigella ospB	1	prey33141 (ZIN; prey33142) hZIN
Shigella ospB	1	prey67575 (LOC136773) hsimilar to 3-HYDROXYISOBUTYRATE DEHYDROGENASE, MITOCHONDRIAL PRECURSOR (HIBADH) (H.sapiens)
Shigella ospB	1	prey67608 (MGC4126) hMGC4126
Shigella ospB	1	prey67637 (LOC90706) hhypothetical proteinXP_033663
Shigella ospB	1	prey12713 (LMO2 RBTNL1 RHOM2 TTG2 RBTN2; prey12714) hLMO2 hTTG-2a/RBTN-2a
Shigella ospB	1	prey67836 (MYO9A) hMYO9A
Shigella ospB	1	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospB	1	prey67844
Shigella ospB	1	prey67853
Shigella ospB	1	prey66272 (FLJ20254) hFLJ20254
Shigella ospD1	2	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospD1	2	prey2492 (FLJ11026; prey2493) hFLJ11026
Shigella ospD1	2	prey67651 putative homolog of prey064241 - Mouse
Shigella ospD1	2	prey67653 putative homolog of prey067652 -
Shigella ospD1	2	prey67667 (PACSIN2) hPACSIN2
Shigella ospD1	2	prey67657 hUnknown (protein forMGC:16824)
Shigella ospD1	2	prey67501 (LOC51667) hLOC51667
Shigella ospD1	2	prey67678 (LOC90410) hhypothetical proteinXP_031534
Shigella ospD1	2	prey67578 (LOC121052) hhypothetical proteinXP_035313
Shigella ospD1	2	prey67580 (DKFZp586I021) hDKFZp586I021

Shigella ospD1	2	prey3160 (KIF5B UKHC KNS KNS1 U-KHC KINH; prey3161) hKIF5B hkinesin heavychain
Shigella ospD1	2	prey50427 (KIAA0419; prey50428) hKIAA0419
Shigella ospD1	2	prey63765 (LIM; prey63767) hLIM
Shigella ospD1	2	prey67623 (LDB2 CLIM1) hLDB2
Shigella ospD1	2	prey7315 (LDB1 CLIM2 NLI; prey7316) hLDB1 hCLIM2
Shigella ospD1	2	prey67601 (ATIP1 KIAA1288 DKFZp586D1519 FLJ14295) hATIP1
Shigella ospD1	2	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ospD1	2	prey67630
Shigella ospD1	2	prey12665 (CREBL1 CREB-RP G13; prey12666) hCREBL1 hG13
Shigella ospD1	2	prey67631 (FLJ21742) hFLJ21742
Shigella ospD1	2	prey20143 (SYNCOILIN; prey20144) hSYNCOILIN
Shigella ospD1	2	prey1418 (NR1H2 UNR NER NER-I RIP15 LXR-B; prey1419) hNR1H2 hNer-I
Shigella ospD1	2	prey67642 (ALDH3B2 ALDH3B2-PENDING ALDH8) hALDH3B2
Shigella ospD1	2	prey67648 (PON2) hPON2
Shigella ospC1	3	prey67266
Shigella ospC1	3	prey67267
Shigella ospC1	3	prey50590 (TID1; prey48229) hTID1
Shigella ospC1	3	prey9822
Shigella ospC1	3	prey67268
Shigella ospC1	3	prey67270
Shigella ospC1	3	prey67271 (STAT5B STAT5) hSTAT5B
Shigella ospC1	3	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospC1	3	prey3486 (PM5; prey3487) hPM5 hpM5
Shigella ospC1	3	prey14801 (KIAA0321) hKIAA0321
Shigella ospC1	3	prey67279
Shigella ospC1	3	prey67280
Shigella ospC1	3	prey49194 (KIAA0211; prey49195) hKIAA0211
Shigella ospC1	3	prey67287
Shigella ospC1	3	prey19931 (HEF1 CAS-L) hHEF1
Shigella ospC1	3	prey67290
Shigella ospC1	3	prey67291
Shigella ospC1	3	prey67294
Shigella ospC1	3	prey67296
Shigella ospC1	3	prey67299

Shigella ospC1	3	prey4637 (TAF2A BA2R CCG1 CCGS NSCL2 TAFII250; prey4638; prey4639) hTAF2A
Shigella ospC1	3	prey67316
Shigella ospC1	3	prey67318
Shigella ospC1	3	prey7144 (IMMT P87/89 HMP; prey7145) hIMMT hp87/89
Shigella ospC1	3	prey67328 (TSC22) hTSC22
Shigella ospC1	3	prey37430 (WASL N-WASP; prey37432) hWASL hN-WASP
Shigella ospC1	3	prey67351
Shigella ospC1	3	prey67353
Shigella ospC1	3	prey25185 hHSPC272
Shigella ospC1	3	prey4411 (ZNF147 EFP TRIM25 Z147) hZNF147
Shigella ospC1	3	prey2686 (VRP AD3; prey2687) hVRP
Shigella ospC1	3	prey67368 (LOC92609) hhypothetical proteinXP_053074
Shigella ospC1	3	prey67371
Shigella ospC1	3	prey4005 (KIAA0141; prey4006; prey8649; prey44107) hKIAA0141
Shigella ospC1	3	prey67380
Shigella ospC1	3	prey3296 (FHOS; prey3297) hFHOS
Shigella ospC1	3	prey2108 (prey2101; prey2104; prey2107; prey2102; prey2103) hSimilar to COP9 (constitutive photomorphogenic), subunit 5(Arabidopsis) hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens) hCOPS5 hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens) hCOPS5 hsimilar to COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 5 (H.sapiens)
Shigella ospC1	3	prey67403
Shigella ospC1	3	prey67405
Shigella ospC1	3	prey14400 (prey14399; prey14401) hprotein phosphatase 5, catalyticsubunit hPPP5C hPPP5C
Shigella ospC1	3	prey50029
Shigella ipaD	4	prey67563 (PRSC1) hPRSC1
Shigella ipaD	4	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ipaD	4	prey25185 hHSPC272
Shigella ipaD	4	prey53990 (TNFRSF1A CD120a TNF-R TNF-R-I TNF-R55 TNFAR TNFR60 TNFR1 p55-R p55) hTNFRSF1A
Shigella ipaD	4	prey9120 (VIM; prey9122) hVIM hvimentin
Shigella ipaD	4	prey67571
Shigella ipaD	4	prey67572
Shigella ipaD	4	prey65696 (KARS KIAA0070; prey65697) hKARS hLysyl tRNASynthetase
Shigella ipaD	4	prey8889 (PLCB3) hPLCB3
Shigella ipaD	4	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM

Shigella ipaD	4	prey2694 (INDO IDO; prey2696; prey2693) hINDO hINDO
Shigella ipaD	4	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaD	4	prey67574
Shigella ipaC	5	prey67509 (POLR2A RPOL2 POLR2 POLRA hRPB220 hsRPB1 RPO2 RpIILS RPBh1 RPB1) hPOLR2A
Shigella ipaC	5	prey67514
Shigella ipaC	5	prey2926 (FLJ23153; prey2927) hFLJ23153
Shigella ipaC	5	prey4458 (RRBP1 ES130 ES/130; prey4459) hRRBP1 hES/130
Shigella ipaC	5	prey4458 (RRBP1 ES130 ES/130; prey4459) hRRBP1 hES/130
Shigella ipaC	5	prey67522
Shigella ipaC	5	prey527 (CLTC CLTCL2 KIAA0034; prey528) hCLTC hKIAA0034
Shigella ipaC	5	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaC	5	prey53735 (TLN1 TLN KIAA1027) hTLN1
Shigella ipaC	5	prey67546 (LOC128116) hsimilar to phosphodiesterase 4D interacting protein (myomegalin) (H.sapiens)
Shigella ipaC	5	prey4671 (KIAA0454) hKIAA0454
Shigella ipaC	5	prey67550 (LOC92689) hhypothetical proteinXP_046663
Shigella ipaC	5	prey8889 (PLCB3) hPLCB3
Shigella ipaC	5	prey11375 (HSPBP1; prey11376) hHSPBP1 hHsp70 binding proteinHspBP1
Shigella ipaC	5	prey67473 (GALE) hGALE
Shigella ipaC	5	prey8929 (KIAA0728 FLJ21489) hKIAA0728
Shigella ipaC	5	prey3488 (ACF7 ABP620 KIAA1251 KIAA0465) hACF7
Shigella ipaC	5	prey3514 (SNX1; prey3515) hSNX1
Shigella ipaC	5	prey5814 (USP9X DFFRX) hUSP9X
Shigella ipaC	5	prey5814 (USP9X DFFRX) hUSP9X
Shigella ipaC	5	prey67479
Shigella ipaC	5	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ipaC	5	prey67481 (GDBR1 GBDR1) hGDBR1
Shigella ipaC	5	prey67488 (LOC126257) hsimilar to putative (H.sapiens)
Shigella ipaC	5	prey51967 (UBQLN1 DSK2 PLIC-1 DA41 XDRP1) hUBQLN1
Shigella ipaC	5	prey67491 (KIAA1007 AD-005) hKIAA1007
Shigella ipaC	5	prey323 (CSH1 CSMT CSA PL; prey324; prey325) hCSH1
Shigella ipaC	5	prey67495
Shigella ipaC	5	prey67506 (LOC126083) hdynamin2
Shigella ipaC	5	prey4578 (PSAP SAP1 GLBA; prey5664) hPSAP hGLBA
Shigella ipaC	5	prey1135 (PSMD1 P112 S1; prey1136) hPSMD1 hproteasome subunitp112

Shigella ipaC	5	prey67465 (COL4A2 FLJ22259) hCOL4A2
Shigella ipaC	5	prey28880 (KPNA4; prey28881) hKPNA4 hQIP1
Shigella ipaC	5	prey3599 (TRIP12 KIAA0045; prey3600) hTRIP12 hKIAA0045
Shigella ipaH9.8	6	prey67717
Shigella ipaH9.8	6	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ipaH9.8	6	prey67718 (KIAA1715) hKIAA1715
Shigella ipaH9.8	6	prey2530 harrestin, beta1
Shigella ipaH9.8	6	prey67731 (LOC126896) hsimilar to Gene 33/Mig-6 (H.sapiens)
Shigella ipaH9.8	6	prey7155 (CSH2 CSB) hCSH2
Shigella ipaH9.8	6	prey1687 (DCTN1) hDCTN1
Shigella ipaH9.8	6	prey67734 (FLJ10618) hFLJ10618
Shigella ipaH9.8	6	prey2694 (INDO IDO; prey2696; prey2693) hINDO hINDO
Shigella ipaH9.8	6	prey67740
Shigella ipaH9.8	6	prey67703 (PPP2R4 PTPA) hPPP2R4
Shigella ipaH9.8	6	prey67741
Shigella ipaH9.8	6	prey67742 (FLJ20313) hFLJ20313
Shigella ipaH9.8	6	prey67339 (MMP19 RASI-1 MMP18) hMMP19
Shigella ipaH9.8	6	prey67337 (MMP19 RASI-1 MMP18) hMMP19
Shigella ipaH9.8	6	prey67746 (FBXO25 FBX25) hFBXO25
Shigella ipaH9.8	6	prey54430 (PSG4 PSG9) hPSG4
Shigella ipaH9.8	6	prey67749
Shigella ipaH9.8	6	prey67751
Shigella ipaH9.8	6	prey8739 (MLL2 ALR; prey8742) hMLL2 hALR
Shigella ipaH9.8	6	prey18232 (CCT3 TRIC5 CCTG; prey18233) hCCT3 hCctg
Shigella ipaH9.8	6	prey66739 (EIF2B1 EIF2B EIF-2B) hEIF2B1
Shigella ipaH9.8	6	prey67769 (PP2135 FLJ00041) hPP2135
Shigella ipaH9.8	6	prey13613 (KIAA0970) hKIAA0970
Shigella ipaH9.8	6	prey3337 (LMNA LMN1 EMD2 FPL LFP LDP1 FPLD CMD1A; prey14196) hLMNA
Shigella ipaH9.8	6	prey67774 (LOC119758) hsimilar to REGULATOR OF PRESYNAPTIC ACTIVITY AEX-3 (H.sapiens)
Shigella ipaH9.8	6	prey67776
Shigella ipaH9.8	6	prey4758 (DKFZP761L0424 KIAA1217) hDKFZP761L0424
Shigella ipaH9.8	6	prey67781 putative homolog of prey046760 - Mouse Fmnl
Shigella ipaH9.8	6	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ipaH9.8	6	prey4060 (KIAA0155; prey4061; prey4062) hKIAA0155

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Shigella ipaH9.8	6	prey49284 (SLC7A8 LAT2) hSLC7A8
Shigella ipaH9.8	6	prey67686
Shigella ipaH9.8	6	prey66872 (MRPS9) hMRPS9
Shigella ipaH9.8	6	prey67690 (RRP4) hRRP4
Shigella ipaH9.8	6	prey67695 (ATP6N1B RDRTA2 RTA1C VPP2 RTADR) hATP6N1B
Shigella ipaH9.8	6	prey67336 (MMP19 RASI-1 MMP18) hMMP19
Shigella ipaH9.8	6	prey6299 (KIAA0335; prey6300) hKIAA0335
Shigella ipaH9.8	6	prey6586 (FLNA ABPX ABP-280 FLN FLN1 NHBP; prey6587) hFLNA
Shigella ipaH9.8	6	prey56789 (ALDH4 P5CDH; prey56791) hALDH4 hP5CDh
Shigella ipaH9.8	6	prey67711
Shigella ipaH9.8	6	prey2118 (RNF2 dinG Bap-1; prey2119) hRNF2 hring finger proteinBAP-1
Shigella ipaH9.8	6	prey3596 (DDX15 HRH2 DBP1; prey3597) hDDX15 hATP-dependent RNA helicase#46
Shigella ipaH9.8	6	prey666 (RANBP16 KIAA0745; prey667; prey665; prey9721) hRANBP16 hRAN binding protein16 hRANBP16 hRANBP16
Shigella ospG	7	prey3917 (BTBD2 FLJ20386; prey3920; prey3918; prey3921; prey3922; prey3919) hBTBD2
Shigella ospG	7	prey63632 (ZNF189; prey63789) hZNF189
Shigella ospG	7	prey2109 (COPS5 JAB1 SGN5 MOV-34; prey2110) hCOPS5 h38 kDa Mov34homolog
Shigella ospG	7	prey54201 (UBE2D3 UBCH5C; prey54202) hUBE2D3 hUBCH5C
Shigella ospG	7	prey1922 (DLST DLTS; prey1923) hDLST hE2K
Shigella ospG	7	prey67418 (UBE2L3 UBCH7) hUBE2L3
Shigella ospG	7	prey67314 (UBE2L6 UBCH8 RIG-B) hUBE2L6
Shigella ospG	7	prey67435 hUnknown (protein forMGC:3432)
Shigella ospG	7	prey67443 (FLJ11807) hFLJ11807
Shigella ospG	7	prey67317 (KIAA1485) hKIAA1485
Shigella ospG	7	prey67393 (UBE2D2 UBCH5B UBC4) hUBE2D2
Shigella ospG	7	prey700 (RANBP9 RANBPM RANBP9-PENDING; prey701) hRANBP9 hRanBPM
Shigella ospG	7	prey67411 (UBE2E3 UBCH9) hUBE2E3
Shigella ospG	7	prey67423
Shigella ospG	7	prey67298
Shigella ospG	7	prey67464
Shigella ospG	7	prey67320
Shigella ospG	7	prey67321
Shigella ospG	7	prey35777 (PSG2 PSBG2 PSGGB; prey35778) hPSG2 hPSG1
Shigella ospG	7	prey67327 (AKAP13 HT31 BRX) hAKAP13

Shigella ospG	7	prey412 (RPN2; prey413) hRPN2 hsignalpeptide
Shigella ospG	7	prey50598 (PEX10 NALD; prey50599) hPEX10 hperoxisome assembly proteinPEX10
Shigella ospG	7	prey67364
Shigella ospG	7	prey67367
Shigella ospG	7	prey67369
Shigella ospG	7	prey67372 (CD63 MLA1 ME491) hCD63
Shigella ospG	7	prey67379
Shigella ospG	7	prey67381 (LOC131541) hhypothetical proteinXP_059524

ospB	1	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ospB	1	gb|AC005091|AC005091 Homo sapiens BAC clone CTA-318C11 from 7p14-p15, complete sequence.
ospB	1	gb|AF117888|AF117888 Homo sapiens myosin-IXa mRNA, complete cds.
ospB	1	gb|AF141347|AF141347 Homo sapiens hum-a-tub2 alpha-tubulin mRNA, complete cds.
ospB	1	gb|AF176702|AF176702 Homo sapiens F-box protein FBX3 mRNA, partial cds.
ospB	1	gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.
ospB	1	gb|AF212940|AF212940 Homo sapiens zinedin (ZIN) mRNA, complete cds.
ospB	1	gb|AF257211|AF257211 Homo sapiens LMO2b splice variant (LMO2) mRNA, complete cds.
ospB	1	gb|AJ005897|HSA005897 Homo sapiens mRNA for JM5 protein, complete CDS (clone IMAGE 53337, LLNLc110F1857Q7 (RZPD Berlin) and LLNLc110G0913Q7 (RZPD Berlin)).
ospB	1	gb|AK024239|AK024239 Homo sapiens cDNA FLJ14177 fis, clone NT2RP2003161.
ospB	1	gb|AL049176|HS141H5 Human DNA sequence from clone 141H5 on chromosome Xq22.1-23. Contains parts of a novel Chordin LIKE protein with von Willebrand factor type C domains. Contains ESTs, STSs and GSSs, complete sequence.
ospB	1	gb|AL122043|HSM801240 Homo sapiens mRNA; cDNA DKFZp566G1424 (from clone DKFZp566G1424).
ospB	1	gb|AL442166|HSMX1A Homo sapiens chromosome 21 from 5 PACs and 5 Cosmids map 21q22.2,D21S349-MX1; segment 1/2, complete sequence.
ospB	1	gb|AP002026|AP002026 Homo sapiens genomic DNA, chromosome 4q22-q24, clone:429K21, complete sequence.
ospB	1	gb|D21260|HUMORFEA Human mRNA for KIAA0034 gene, complete cds.
ospB	1	gb|L14599|HUMPSFHOMO Human mRNA, complete cds.
ospB	1	gb|L28809|HUMAAE Homo sapiens dbpB-like protein mRNA, complete cds.
ospB	1	gb|M23254|HUMCANP Human Ca2-activated neutral protease large subunit (CANP) mRNA, complete cds.
ospB	1	gb|U24576|U24576 Homo sapiens breast tumor autoantigen (LMO4) mRNA, complete cds.
ospB	1	gb|X61118|HSTTG2 Human TTG-2 mRNA for a cysteine rich protein with LIM motif.
ospD1	2	gb|AB007879|AB007879 Homo sapiens KIAA0419 mRNA, complete cds.
ospD1	2	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ospD1	2	gb|AB016485|AB016485 Homo sapiens mRNA for LIM homeobox protein cofactor (CLIM-2), complete cds.
ospD1	2	gb|AB028956|AB028956 Homo sapiens mRNA for KIAA1033 protein, partial cds.
ospD1	2	gb|AB033114|AB033114 Homo sapiens mRNA for KIAA1288 protein, partial cds.
ospD1	2	gb|AC003108|HUAC003108 Human Chromosome 16 BAC clone CIT987SK-327O24, complete sequence.
ospD1	2	gb|AC008764|AC008764 Homo sapiens chromosome 19 clone CTD-3222D19, complete sequence.

ospD1	2	gb|AF001601|AF001601 Homo sapiens paraoxonase (PON2) mRNA, complete cds.
ospD1	2	gb|AF006466|AF006466 Mus musculus lymphocyte specific formin related protein (Fr1) mRNA, complete cds.
ospD1	2	gb|AF061258|AF061258 Homo sapiens LIM protein mRNA, complete cds.
ospD1	2	gb|AF068651|AF068651 Homo sapiens LIM-domain binding factor CLIM1 (CLIM1) mRNA, complete cds.
ospD1	2	gb|AF128536|AF128536 Homo sapiens cytoplasmic phosphoprotein PACSIN2 mRNA, complete cds.
ospD1	2	gb|AF155099|AF155099 Homo sapiens NY-REN-18 antigen mRNA, complete cds.
ospD1	2	gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.
ospD1	2	gb|AF265342|AF265342 Homo sapiens chromosome 8 map 8p BAC 2053N22, complete sequence.
ospD1	2	gb|AK001888|AK001888 Homo sapiens cDNA FLJ11026 fis, clone PLACE1004104.
ospD1	2	gb|AL121808|CNS01DSJ Human chromosome 14 DNA sequence *** IN PROGRESS *** BAC C-2313O13 of library CalTech-D from chromosome 14 of Homo sapiens (Human), complete sequence.
ospD1	2	gb|AQ628981|AQ628981 RPCI-11-469I15.TJ RPCI-11 Homo sapiens genomic clone RPCI-11-469I15 , DNA sequence.
ospD1	2	gb|B88348|B88348 CIT-HSP-2063N18.TFB CIT-HSP Homo sapiens genomic clone 2063N18, DNA sequence.
ospD1	2	gb|M57298|HUMGPG25K Human GTP-binding protein G25K mRNA, complete cds.
ospD1	2	gb|M63960|HUMPRPHOS1 Human protein phosphatase-1 catalytic subunit mRNA, complete cds.
ospD1	2	gb|U07132|HSU07132 Human steroid hormone receptor Ner-I mRNA, complete cds.
ospD1	2	gb|U31903|HSU31903 Human CREB-RP (creb-rp) mRNA, complete cds.
ospD1	2	gb|U37519|HSU37519 Human aldehyde dehydrogenase (ALDH8) mRNA, complete cds.
ospD1	2	gb|X65873|HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ospD1	2	gb|X65873|HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ospD1	2	gb|X65873|HSKHCMR H.sapiens mRNA for kinesin (heavy chain).
ipaD	4	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ipaD	4	gb|AF161390|AF161390 Homo sapiens HSPC272 mRNA, partial cds.
ipaD	4	gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.
ipaD	4	gb|D32053|D32053 Homo sapiens mRNA for Lysyl tRNA Synthetase, complete cds.
ipaD	4	gb|D55696|D55696 Homo sapiens mRNA for cysteine protease, complete cds.
ipaD	4	gb|M14144|HUMVIM Human vimentin gene, complete cds.
ipaD	4	gb|M34455|HUMIGIIDO Human interferon-gamma-inducible indoleamine 2,3-dioxygenase (IDO) mRNA, complete cds.
ipaD	4	gb|M63121|HUMTNFRC Human tumor necrosis factor receptor (TNF receptor) mRNA, complete cds.
ipaD	4	gb|U70734|HSU70734 Homo sapiens 38 kDa Mov34 homolog mRNA, complete cds.
ipaD	4	gb|Z26649|HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.

ipaD	4	gb|Z26649|HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.
ipaC	5	gb|AB002366|AB002366 Human mRNA for KIAA0368 gene, partial cds.
ipaC	5	gb|AB002533|AB002533 Homo sapiens mRNA for Qip1, complete cds.
ipaC	5	gb|AB007923|AB007923 Homo sapiens mRNA for KIAA0454 protein, partial cds.
ipaC	5	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ipaC	5	gb|AB018271|AB018271 Homo sapiens mRNA for KIAA0728 protein, partial cds.
ipaC	5	gb|AB020335|AB020335 Homo sapiens Pancreas-specific TSA305 mRNA , complete cds.
ipaC	5	gb|AB023224|AB023224 Homo sapiens mRNA for KIAA1007 protein, partial cds.
ipaC	5	gb|AB029290|AB029290 Homo sapiens mRNA for actin binding protein ABP620, complete cds.
ipaC	5	gb|AB046026|AB046026 Macaca fascicularis brain cDNA, clone:QccE-16688.
ipaC	5	gb|AC003991|AC003991 Human BAC clone CTB-167B5 from 7q21, complete sequence.
ipaC	5	gb|AC005578|AC005578 Homo sapiens chromosome 19, cosmid F20887, complete sequence.
ipaC	5	gb|AF006751|AF006751 Homo sapiens ES/130 mRNA, complete cds.
ipaC	5	gb|AF006751|AF006751 Homo sapiens ES/130 mRNA, complete cds.
ipaC	5	gb|AF006751|AF006751 Homo sapiens ES/130 mRNA, complete cds.
ipaC	5	gb|AF006751|AF006751 Homo sapiens ES/130 mRNA, complete cds.
ipaC	5	gb|AF100153|AF100153 Homo sapiens connector enhancer of KSR-like protein CNK1 mRNA, complete cds.
ipaC	5	gb|AF176069|AF176069 Homo sapiens ubiquilin mRNA, complete cds.
ipaC	5	gb|AF176069|AF176069 Homo sapiens ubiquilin mRNA, complete cds.
ipaC	5	gb|AF176796|AF176796 Homo sapiens putative glialblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.
ipaC	5	gb|AF176796|AF176796 Homo sapiens putative glialblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.
ipaC	5	gb|AF176796|AF176796 Homo sapiens putative glialblastoma cell differentiation-related protein (GBDR1) mRNA, complete cds.
ipaC	5	gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.
ipaC	5	gb|AF177198|AF177198 Homo sapiens talin mRNA, complete cds.
ipaC	5	gb|AF187859|AF187859 Homo sapiens Hsp70 binding protein HspBP2 mRNA, complete cds.
ipaC	5	gb|AF189009|AF189009 Homo sapiens ubiquitin-like product Chap1/Dsk2 mRNA, complete cds.
ipaC	5	gb|AK000982|AK000982 Homo sapiens cDNA FLJ10120 fis, clone HEMBA1002863.
ipaC	5	gb|D21260|HUMORFEA Human mRNA for KIAA0034 gene, complete cds.
ipaC	5	gb|D28476|HUMKG1C Human mRNA for KIAA0045 gene, complete cds.

ipaC	5	gb|D44466|D44466 Homo sapiens mRNA for proteasome subunit p112, complete cds.
ipaC	5	gb|J00118|HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds.
ipaC	5	gb|J00118|HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds.
ipaC	5	gb|J04164|HUM927A Human interferon-inducible protein 9-27 mRNA, complete cds.
ipaC	5	gb|L36983|HUMDNM Homo sapiens dynamin (DNM) mRNA, complete cds.
ipaC	5	gb|L41498|HUMPTI1B Homo sapiens longation factor 1-alpha 1 (PTI-1) mRNA, complete cds.
ipaC	5	gb|L41668|HUMGALE Homo sapiens UDP-galactose-4-epimerase (GALE) mRNA, complete cds.
ipaC	5	gb|M24766|HUMCOL4A2P Human (clone pHAIV2-12) alpha-2 collagen type IV (COL4A2) mRNA, 3' end.
ipaC	5	gb|M81355|HUMSPHINO Homo sapiens sphingolipid activator proteins 1 and 2 processed mutant mRNA, complete cds.
ipaC	5	gb|U02389|HSU02389 Human hLON ATP-dependent protease mRNA, nuclear gene encoding mitochondrial protein, complete cds.
ipaC	5	gb|U53225|HSU53225 Human sorting nexin 1 (SNX1) mRNA, complete cds.
ipaC	5	gb|X05610|HSC4A2 Human mRNA for type IV collagen alpha (2) chain.
ipaC	5	gb|X63564|HSRPIILS H.sapiens mRNA for RNA polymerase II largest subunit.
ipaC	5	gb|X98296|HSUBIQHYD H.sapiens mRNA for ubiquitin hydrolase.
ipaC	5	gb|Z26649|HSPPLCB3 H.sapiens mRNA for phospholipase C-b3.
ipaH9.8	6	dbj|AB001636.1|AB001636 Homo sapiens mRNA for ATP-dependent RNA helicase #46, complete cds
ipaH9.8	6	dbj|AB002333.1|AB002333 Human mRNA for KIAA0335 gene, complete cds
ipaH9.8	6	dbj|AB008515.1|AB008515 Homo sapiens mRNA for RanBPM, complete cds
ipaH9.8	6	dbj|AB023187.1|AB023187 Homo sapiens mRNA for KIAA0970 protein, complete cds
ipaH9.8	6	dbj|AB033043.1|AB033043 Homo sapiens mRNA for KIAA1217 protein, partial cds
ipaH9.8	6	dbj|AK001451.1|AK001451 Homo sapiens cDNA FLJ10589 fis, clone NT2RP2004389, weakly similar to PROBABLE MITOCHONDRIAL 40S RIBOSOMAL PROTEIN S9 PRECURSOR
ipaH9.8	6	dbj|AK024449.1|AK024449 Homo sapiens mRNA for FLJ00041 protein, partial cds
ipaH9.8	6	dbj|D63875.1|D63875 Human mRNA for KIAA0155 gene, complete cds
ipaH9.8	6	emb|AL034405.16|HS537K23 Human DNA sequence from clone RP4-537K23 on chromosome Xq25-26.1, complete sequence [Homo sapiens]
ipaH9.8	6	emb|AL034417.14|HS215D11 Human DNA sequence from clone 215D11 on chromosome 1p36.12-36.33 Contains a gene for a RNA-binding protein regulatory subunit, a gene similar to rat gene 33, a pseudogene similar to PLA-X, ESTs, STSs, GSSs and CpG islands, complete sequence [Homo sapie
ipaH9.8	6	emb|AL050313.6|HSBK754D9 Human DNA sequence from clone CTA-754D9 on chromosome 22 Contains GSSs, complete sequence [Homo sapiens]

ipaH9.8	6	emb|AL117448.1|HSM800958 Homo sapiens mRNA; cDNA DKFZp586B1417 (from clone DKFZp586B1417); partial cds
ipaH9.8	6	emb|AL137068.10|AL137068 Human DNA sequence from clone RP11-165P4 on chromosome 9q34.11-34.13, complete sequence [Homo sapiens]
ipaH9.8	6	emb|X53416.1|HSABP280 Human mRNA for actin-binding protein (filamin) (ABP-280)
ipaH9.8	6	emb|X73478.1|HSPTPAA H.sapiens hPTPA mRNA
ipaH9.8	6	emb|X74801.1|HSHUMAPC H.sapiens Cctg mRNA for chaperonin
ipaH9.8	6	emb|X95648.1|HSEIF2BAS H.sapiens mRNA for eIF-2B alpha subunit
ipaH9.8	6	gb|AC005392.1|AC005392 Homo sapiens chromosome 19, CIT-HSP BAC 490g23 (BC338531), complete sequence
ipaH9.8	6	gb|AC005833.1|AC005833 Homo sapiens 12p13.3 BAC RPCI11-234B24 (Roswell Park Cancer Institute Human BAC Library) complete sequence
ipaH9.8	6	gb|AC005881.3|AC005881 citb_79_e_16, complete sequence [Homo sapiens]
ipaH9.8	6	gb|AC020663.1|AC020663 Homo sapiens chromosome 16 clone RPCI-11_127I20, complete sequence
ipaH9.8	6	gb|AF006466.1|AF006466 Mus musculus lymphocyte specific formin related protein (Fr1) mRNA, complete cds
ipaH9.8	6	gb|AF010404.1|AF010404 Homo sapiens ALR mRNA, complete cds
ipaH9.8	6	gb|AF064729.1|AF064729 Homo sapiens RAN binding protein 16 mRNA, complete cds
ipaH9.8	6	gb|AF084940.1|AF084940 Homo sapiens beta-arrestin 1B mRNA, complete cds
ipaH9.8	6	gb|AF135159.1|AF135159 Homo sapiens GMP reductase mRNA, complete cds
ipaH9.8	6	gb|AF139184.1|AF139184 Homo sapiens Sec31 protein mRNA, complete cds
ipaH9.8	6	gb|AF141327.1|AF141327 Homo sapiens ring finger protein BAP-1 mRNA, complete cds
ipaH9.8	6	gb|AF171669.1|AF171669 Homo sapiens glycoprotein-associated amino acid transporter LAT2 (LAT2) mRNA, complete cds
ipaH9.8	6	gb|AF174605.1|AF174605 Homo sapiens F-box protein Fbx25 (FBX25) mRNA, partial cds
ipaH9.8	6	gb|AF207661.1|AF207661 Homo sapiens sodium bicarbonate cotransporter-like protein mRNA, partial cds
ipaH9.8	6	gb|AF245517.1|AF245517 Homo sapiens vacuolar proton pump 116 kDa accessory subunit (ATP6N1B) mRNA, complete cds, alternatively spliced
ipaH9.8	6	gb|AF249874.1|AF249874 Homo sapiens vacuolar proton pump 116 kDa accessory subunit gene, exon 3 and 5' untranslated region, partial sequence
ipaH9.8	6	gb|J00118.1|HUMPLB Human placental lactogen hormone (PL-4) mRNA, complete cds
ipaH9.8	6	gb|L14283.1|HUMPROKINC Human protein kinase C zeta mRNA, complete cds
ipaH9.8	6	gb|L25286.1|HUMCOLXVA1 Homo sapiens alpha-1 type XV collagen mRNA, complete cds
ipaH9.8	6	gb|M13451.1|HUMLAMC Human lamin C mRNA, complete cds
ipaH9.8	6	gb|M21616.1|HUMPDGFR Human platelet-derived growth factor (PDGF) receptor mRNA, complete cds

ipaH9.8	6	gb|M32053.1|HUMH19 Human H19 RNA gene, complete cds
ipaH9.8	6	gb|M34455.1|HUMIGIIDO Human interferon-gamma-inducible indoleamine 2,3-dioxygenase (IDO) mRNA, complete cds
ipaH9.8	6	gb|M94890.1|HUMPSBG11 Human pregnancy-specific beta-1-glycoprotein 11 (PSG11) mRNA, complete cds
ipaH9.8	6	gb|M98478.1|HUMTGH1A Human transglutaminase mRNA, complete cds
ipaH9.8	6	gb|U24267.1|HSU24267 Human pyrroline-5-carboxylate dehydrogenase (P5CDh) mRNA, short form, complete cds
ipaH9.8	6	gb|U37791.1|HSU37791 Homo sapiens clone rasi-1 matrix metalloproteinase RASI-1 mRNA, complete cds
ipaH9.8	6	gb|U38431.1|HSU38431 Human clone rasi-6 matrix metalloproteinase RASI-1 mRNA, splice variant, complete cds
ipaH9.8	6	gb|U65928.1|HSU65928 Human Jun activation domain binding protein mRNA, complete cds
ipaH9.8	6	ref|NM_014285.1| Homo sapiens homolog of Yeast RRP4 (ribosomal RNA processing 4), 3'-5'-exoribonuclease (RRP4), mRNA
ipaH9.8	6	ref|NM_017762.1| Homo sapiens hypothetical protein FLJ20313 (FLJ20313), mRNA
ipaH9.8	6	ref|NM_018155.1| Homo sapiens hypothetical protein FLJ10618 (FLJ10618), mRNA
ospG	7	gb|AB008515|AB008515 Homo sapiens mRNA for RanBPM, complete cds.
ospG	7	gb|AB013818|AB013818 Homo sapiens PEX10 mRNA for peroxisome biogenesis factor (peroxin) 10, complete cds.
ospG	7	gb|AB033054|AB033054 Homo sapiens mRNA for KIAA1228 protein, partial cds.
ospG	7	gb|AB033054|AB033054 Homo sapiens mRNA for KIAA1228 protein, partial cds.
ospG	7	gb|AB040918|AB040918 Homo sapiens mRNA for KIAA1485 protein, partial cds.
ospG	7	gb|AC005281|AC005281 Homo sapiens PAC clone RP4-722F20 from 7q31.1-q31.3, complete sequence.
ospG	7	gb|AE003603|AE003603 Drosophila melanogaster genomic scaffold 142000013386043 section 4 of 8, complete sequence.
ospG	7	gb|AF033095|AF033095 Homo sapiens testis enhanced gene transcript protein (TEGT) mRNA, complete cds.
ospG	7	gb|AF035121|AF035121 Homo sapiens KDR/flk-1 protein mRNA, complete cds.
ospG	7	gb|AF061736|AF061736 Homo sapiens ubiquitin-conjugating enzyme RIG-B mRNA, complete cds.
ospG	7	gb|AF085362|AF085362 Homo sapiens UbcM2 mRNA, complete cds.
ospG	7	gb|AF104913|AF104913 Homo sapiens eukaryotic protein synthesis initiation factor mRNA, complete cds.
ospG	7	gb|AF155238|AF155238 Homo sapiens BAC 180i23 chromosome 8 map 8q24.3 beta-galactoside alpha-2,3-sialyltransferase (SIAT4A) gene, complete sequence.
ospG	7	gb|AJ000519|HSUBICONJ Homo sapiens mRNA for ubiquitin-conjugating enzyme UbcH7.
ospG	7	gb|AK000393|AK000393 Homo sapiens cDNA FLJ20386 fis, clone KAIA4184.
ospG	7	gb|AK001311|AK001311 Homo sapiens cDNA FLJ10449 fis, clone NT2RP1000947, highly similar to Human E2 ubiquitin conjugating enzyme UbcH5B mRNA.
ospG	7	gb|AL050321|HSJ717M23 Human DNA sequence from clone RP4-717M23 on chromosome 20, complete sequence.

Table III : SID®

1: Bait name	2: Bait nucleic acid SEQ ID No.	3: Prey name	4: SID nucleic acid ID No.	5: SID nucleic acid sequence	6: SID amino-acid ID No.	7: SID amino-acid sequence
Shigella ospB	1	prey44074	15	CTTCAGCCACGACTCCTCCTTCCTCTGCGCT TCCAGTGATAAGGGTACTGTCCATATCTTTGC TCTCAAGGATACCCGCCTCAACCGCCGCTCC GCGCTGGCTCGCGTGGGCAAGGTGGGGCCT ATGATTGGGCAGTACGTGGACTCTCAGTGGA GCCTGGCGAGCTTCACTGTGCCTGCTGAGTC AGCTTGCATCTGCGCCTTCGGTCGCAATACT TCCAAGAACGTCAACTCTGTCATTGCCATCTG CGTAGATGGGACCTTCCACAAATATGTCTTCA CTCCTGATGGAAACTGCAACAGAGAGGCTTT CGACGTGTACCTTGACATCTGTGATGATGAT GACTTTTAA	216	FSHDSSFLCASSDKGTVHIFAL KDTRLNRRSALARVGKVGPMI GQYVDSQWSLASFTVPAESA CICAFGRNTSKNVNSVIAICVD GTFHKYVFTPDGNCNREAFD VYLDICDDDDF*
Shigella ospB	1	prey67804	16	GACCAGCAAGTCTTGCGAGTACAATGGGACA ACTTACCAACATGGAGAGCTGTTCGTAGCTG AAGGGCTCTTTCAGAATCGGCAACCCAATCA ATGCACCCAGTGCAGCTGTTCGGAGGGAAAC GTGTATTGTGGTCTCAAGACTTGCCCCAAATT AACCTGTGCCTTCCCAGTCTCTGTTCCAGATT CCTGCTGCCGGGTATGCAGAGGAGATGGAG AACTGTCATGGGAACATTCTGATGGTGATATC TTCCGGCAACCTGCCAACAGAGAAGCAAGAC ATTCTTACCACCGCTCTCACTATGATCCTCCA CCAAGCCGACAGGCTGGAGGTCTGTCCCGC TTTCCTGGGGCCAGAAGTCACCGGGGAGCT CTTATGGATTCCCAGCAAGCATCAGGAACCA TTGTGCAAATTGTCATCAATAACAAACACAAG CATGGACAAGTGTGTGTTTCCAATGGAAAGA	217	TSKSCEYNGTTYQHGELFVAE GLFQNRQPNQCTQCSCSEGN VYCGLKTCPKLTCAFPVSVPD SCCRVCRGDGELSWEHSDG DIFRQPANREARHSYHRSHYD PPPSRQAGGLSRFPGARSHR GALMDSQQASGTIVQIVINNKH KHGQVCVSNGKTYSHGESWH PNLRAFGIVECVLCTCNVTKQ ECKKIHCPNRYPCKYPQKIDG KCCKVCPGKKAKELPGQSFD NKGYFCGEETMPVYESVFME DGETTRKIALETERPPQVEVH VWTIRKGILQHFHIEKISKRMF EELPHFKLVTRTTLSQWKIFTE

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				CCTATTCTCATGGCGAGTCCTGGCACCCAAA CCTCCGGGCATTTGGCATTGTGGAGTGTGTG CTATGTACTTGTAATGTCACCAAGCAAGAGTG TAAGAAAATCCACTGCCCCAATCGATACCCC TGCAAGTATCCTCAAAAAATAGACGGAAAATG CTGCAAGGTGTGTCCAGGTAAAAAAGCAAAA GAACTTCCAGGCCAAAGCTTTGACAATAAAG GCTACTTCTGCGGGGAAGAAACGATGCCTGT GTATGAGTCTGTATTCATGGAGGATGGGGAG ACAACCAGAAAAATAGCACTGGAGACTGAGA GACCACCTCAGGTAGAGGTCCACGTTTGGAC TATTCGAAAGGGCATTCTCCAGCACTTCCATA TTGAGAAGATCTCCAAGAGGATGTTTGAGGA GCTTCCTCACTTCAAGCTGGTGACCAGAACA ACCCTGAGCCAGTGGAAGATCTTCACCGAAG GAGAAGCTCAGATCAGCCAGATGTGTTCAAG TCGTGTATGCAGAACAGAGCTTGAAGATTTA GTCAAGGTTTTGTACCTGGAGAGATCTGAAA AGGGCCACTGTTAG		GEAQISQMCSSRVCRTELEDL VKVLYLERSEKGHC*
Shigella ospB	1	prey67806	17	NCTNCCCTGNGCGNGACCAGCCTGGTNANC TTACCNGGANCCACNGGATGTNGTGTANCTG TGCTCTGCGCTTGCCATGATGACTTNTGGGA GCTGCANCCGTCGCGTTTNTGNNNCGTNGTT GGTGNCNGGCCTCCNTANGNTGTGNNACGA AGACTGTTNTTTGCTAAGGACCTGCNGTNTG CTGCTTCATTNGGNGAGNTTTNNTTAGGGGG NGNNTTATTNCTAAAATNTTGGGACTCTTAAG TTTTNGNTGNGGTTTTTNTNGNNAAGAA	218	XXLXXTSLVXLPGXTGCXVXV LCACHDDXWELXPSRXXXVV GXXPPXXVXRRLXFAKDLXXA ASXGEXXLGGXLXLKXWDS*V XXXVFXXK
Shigella ospB	1	prey67810	18	GGCGGCCATGGAGACCGAGACGGCGCCGCT GACCCTAGAGTCGCTGCCCACCGATCCCCTG CTCCTCATCTTATCCTTTTTGGACTATCGGGA TCTAATCAACTGTTGTTATGTCAGTCGAAGAC TTAGCCAGCTATCAAGTCATGATCCGCTGTG GAGAAGACATTGCAAAAAATACTGGCTGATAT CTGAGGAAGAGAAAACACAGAAGAATCAGTG	219	AAMETETAPLTLESLPTDPLLLI LSFLDYRDLINCCYVSRRLSQL SSHDPLWRRHCKKYWLISEEE KTQKNQCWKSLFIDTYSDVGR YIDHYAAIKKAWDDLKKYLEPR CPRMVLSLKEGAREEDLDAVE AQIGCKLPDDYRCSYRIHNGQ

				TTGGAAATCTCTCTTCATAGATACTTACTCTG ATGTAGGAAGATACATTGACCATTATGCTGCT ATTAAAAAGGCCTGGGATGATCTCAAGAAATA TTTGGAGCCCAGGTGTCCTCGGATGGTTTTA TCTCTGAAAGAGGGTGCTCGAGAGGAAGACC TCGATGCTGTGGAAGCGCAGATTGGCTGCAA GCTTCCTGACGATTATCGATGTTCATACCGAA TTCACAATGGACAGAAGTTAGTGGTTCCTGG GTTATTGGGAAGCATGGCACTGTCTAATCAC TATCGTTCTGAAGATTTGTTAGACGTCGATAC AGCTGCCGGAGGATTCCAGCAGAGACAGGG ACTGAAATACTGTCTCCCTTTAACTTTTTGCA TACATACTGGTTTGAGTCAGTACATAGCAGTG GAAGCTGCAGAGGGCCGAAACAAAAATGAAG TTTTCTACCAATGTCCAGACCAAATGGCTCGA AATCCAGCTGCTATTGACATGTTTATTATAGG TGCTACTTTTACTGACTGGTTTACCTCTTATG TCAAAAATGTTGTATCAGGTGGCTTCCCCATC ATCAGAGACCAAATTTTCAGATATGTTCACGA TCCAGAATGTGTAGCAACAACTGGGGATATT ACTGTGTCAGTTTCCACATCGTTTCTGCCAGA ACTTAGCTCTGTACATCCACCCCACTATTTCT TCACATACCGAATCAGGATTGAAATGTCAAAA GATGCACTTCCTGAGAAGGCCTGTCAGTTGG ACAGTCGCTATTGGAGAATAACAAATGCTAA GGGTGACGTGGAAGAAGTTCAAGGACCTGG AGTAGTTGGTGAATTTCCAATCATCAGCCCA GGTCGGGTATATGAATACACAAGCTGTACCA CATTCTCTACAACATCAGGATACATGGAAGG ATATTATACCTTCCATTTTCTTTACTTTAAAGA CAAGATCTTTAATGTTGCCATTCCCCGATTCC ATATGGCATGTCCAACATTCAGGGTGTCTATA GCCCGATTGGTAAGTTAA		KLVVPGLLGSMALSNHYRSED LLDVDTAAGGFQQRQGLKYC LPLTFCIHTGLSQYIAVEAAEG RNKNEVFYQCPDQMARNPAA IDMFIIGATFTDWFTSYVKNVV SGGFPIIRDQIFRYVHDPECVA TTGDITVSVSTSFLPELSSVHP PHYFFTYRIRIEMSKDALPEKA CQLDSRYWRITNAKGDVEEV QGPGVVGEFPIISPGRVYEYT SCTTFSTTSGYMEGYYTFHFL YFKDKIFNVAIPRFHMACPTFR VSIARLVS*
Shigella ospB	1	prey5237	19	GCAGCAACAGCAGCAGCCGCCACCACCGCC AATACCTGCAAATGGGCAACAGGCCAGCAGC	220	QQQQQPPPPPIPANGQQASS QNEGLTIDLKNFRKPGEKTFT

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				CAAAATGAAGGCTTGACTATTGACCTGAAGA ATTTTAGAAAACCAGGAGAGAAGACCTTCAC CCAACGAAGCCGTCTTTTTGTGGGAAATCTT CCTCCCGACATCACTGAGGAAGAAATGAGGA AACTATTTGAGAAATATGGAAAGGCAGGCGA AGTCTTCATTCATAAGGATAAAGGATTTGGCT TTATCCGCTTGGAAACCCGAACCCTAGCGGA GATTGCCAAAGTGGAGCTGGACAATATGCCA CTCCGTGGAAAGCAGCTGCGTGTGCGCTTTG CCTGCCATAGTGCATCCCTTACAGTTCGAAA CCTTCCTCAGTATGTGTCCAACGAACTGCTG GAAGAAGCCTTTTCTGTGTTTGGCCAGGTAG AGAGGGCTGTAGTCATTGTGGATGATCGAGG AAGGCCCTCAGGAAAAGGCATTGTTGAGTTC TCAGGGAAGCCAGCTGCTCGGAAAGCTCTG GACAGATGCAGTGAAGGCTCCTTCCTGCTAA CCACATTTCCTCGTCCTGTGACTGTGGAGCC CATGGACCAGTTAGATGATGAAGAGGGACTT CCAGAGAAGCTGGTTATAAAAAACCAGCAAT TTCACAAGGAACGAGAGCAGCCACCCAGATT TGCACAGCCTGGCTCCTTTGAGTATGAATAT GCCATGCGCTGGAAGGCACTCATTGAGATGG AGAAGCAGCAGCAGGACCAAGTGGACCGCA ACATCAAGGAGGC		QRSRLFVGNLPPDITEEEMRK LFEKYGKAGEVFIHKDKGFGFI RLETRTLAEIAKVELDNMPLRG KQLRVRFACHSASLTVRNLPQ YVSNELLEEAFSVFGQVERAV VIVDDRGRPSGKGIVEFSGKP AARKALDRCSEGSFLLTTFPR PVTVEPMDQLDDEEGLPEKLV IKNQQFHKEREQPPRFAQPGS FEYEYAMRWKALIEMEKQQQ DQVDRNIKE
Shigella ospB	1	prey67661	20	TGGGGATTTCTGCATCCGGGTCTTTTCTGAA AAGAAAGCTGACTACCAAGCTGTCGATGATG AAATCGAGGCCAATCTTGAAGAGTTCGACAT CAGCGAGGATGACATTGATGATGGAGTCAGG AGACTGTTTGCCCAGTTGGCAGGAGAGGATG CGGAGATCTCTGCCTTTGAGCTGCAGACCAT CCTGAGAAGGGTTCTAGCAAAGCGCCAAGAT ATCAAGTCAGATGGCTTCAGCATCGAGACAT GCAAAATTATGGTTGACATGCTAGATTCGGA CGGGAGTGGCAAGCTGGGGCTGAAGGAGTT CTACATTCTCTGGACGAAGATTCAAAAATACC	221	GDFCIRVFSEKKADYQAVDDE IEANLEEFDISEDDIDDGVRRL FAQLAGEDAEISAFELQTILRR VLAKRQDIKSDGFSIETCKIMV DMLDSDGSGKLGLKEFYILWT KIQKYQKIYREIDVDRSGTMNS YEMRKALEEAGFKMPCQLHQ VIVARFADDQLIIDFDNFVRCL VRLETLFKIFKQLDPENTGTIEL DLISWLCFSVL*

				AAAAAATTTACCGAGAAATCGACGTTGACAG GTCTGGTACCATGAATTCCTATGAAATGCGG AAGGCATTAGAAGAAGCAGGTTTCAAGATGC CCTGTCAACTCCACCAAGTCATCGTTGCTCG GTTTGCAGATGACCAGCTCATCATCGATTTTG ATAATTTTGTTCGGTGTTTGGTTCGGCTGGAA ACGCTATTCAAGATATTTAAGCAGCTGGATCC CGAGAATACTGGAACAATAGAGCTCGACCTT ATCTCTTGGCTCTGTTTCTCAGTACTTTGA		
Shigella ospB	1	prey34730	21	ATGGTGAATCCGGGCAGCAGCTCGCAGCCG CCCCCGGTGACGGCCGGCTCCCTCTCCTGG AAGCGGTGCGCAGGCTGCGGGGGCAAGATT GCGGACCGCTTTCTGCTCTATGCCATGGACA GCTATTGGCACAGCCGGTGCCTCAAGTGCTC CTGCTGCCAGGCGCAGCTGGGCGACATCGG CACGTCCTGTTACACCAAAAGTGGCATGATC CTTTGCAGAAATGACTACATTAGGTTATTTGG AAATAGCGGTGCTTGCAGCGCTTGCGGACAG TCGATTCCTGCGAGTGAACTCGTCATGAGGG CGCAAGGCAATGTGTATCATCTTAAGTGTTTT ACATGCTCTACCTGCCGGAATCGCCTGGTCC CGGGAGATCGGTTTCACTACATCAATGGCAG TTTATTTTGTGAACATGATAGACCTACAGCTC TCATCAATGGCCATTTGAATTCACTTCAGAGC AATCCACT	222	MVNPGSSSQPPPVTAGSLSW KRCAGCGGKIADRFLLYAMDS YWHSRCLKCSCCQAQLGDIG TSCYTKSGMILCRNDYIRLFGN SGACSACGQSIPASELVMRAQ GNVYHLKCFTCSTCRNRLVPG DRFHYINGSLFCEHDRPTALIN GHLNSLQSNP
Shigella ospB	1	prey33141	22	CCTGAGCCTGCCGGGGATCCTGCACTTTATC CAGCACGAGTGGGCGCGCTTCGAAGCCGAG AAAGCCCGCTGGGAGGCCGAGCGCGCCGAG TTACAGGCTCAGGTGGCCTTCCTTCAGGGAG AGAGGAAAGGGCAGGAGAATCTAAAGACGG ACCTGGTGCGGCGGATCAAGATGCTAGAGTA TGCGCTGAAGCAGGAAAGGGCCAAATATCAT AAACTGAAGTTTGGGACAGACCTGAACCAGG GGGAGAAGAAAGCAGATGTGTCAGAACAAGT CTCCAATGGCCCCGTGGAATCGGTCACCCTG	223	LSLPGILHFIQHEWARFEAEKA RWEAERAELQAQVAFLQGER KGQENLKTDLVRRIKMLEYAL KQERAKYHKLKFGTDLNQGE KKADVSEQVSNGPVESVTLEN SPLVWKEGRQLLRQYLE

				GAGAACAGCCCGTTGGTGTGGAAGGAGGGG CGGCAGCTTCTCCGACAGTACCTGGAAG		
Shigella ospB	1	prey67575	23	ATGGCAGCCTCCTTACGGCTCCTCGGAGCTG CCTCCGGTCTCCGGTACTGGAGCCGGCGGC TGCGGCCGGCAGCCGGCAGCTTTGCAGCGG TGTGTTCTAGGTCAGTGGCTTCAAAGACTCC AGTTGGATTCATTGGACTGGGCAACATGGGG AATCCAATGGCAAAAAATCTCATGAAACATGG CTATCCACTTATTATTTATGATGTGTTCCCTG ATGCCTGCAAAGAGTTTCAAGATGCAGGTGA ACAGGTAGTATCTTCCCCAGCAGATGTTGCT GAAAAAGCTGACAGAATTATTACAATGCTGCC CACCAGTATCAATGCAATAGAAGCTTATTCCG GAGCAAATGGGATTCTAAAAAAAGTGAAGAA GGGCTCATTATTAATAGATTCCAGCACTATTG ATCCTGCAGTTTCAAAAGAATTGGCCAAAGAA GTTGAGAAAATGGGAGCAGTTTTCATGGATG CCCCTGTTTCTGGTGGTGTAGGAGCTGCACG ATCTGGGAACCTCACGTTTATGGTGGGAGGA GTTGAAGATGAATTTGCTGCTGCCCAAGAGT TGCTGGGGTGCATGGGCTCCAACGTGGTGT ACTGTGGAGCTGTTGGGACTGGGCAGGCGG CAAAGATCTGCAACAACATGCTGTTAGCTATT AGTATGATTGGAACTGCTGAAGCTATGAATCT TGGAATCAGGTTAGGGCTTGACCCAAAACTA CTGGCTAAAATCCTAAATATGAGCTCAGGAC GGTGTTGGTCAAGTGACACTTATAATCCTGTA CCTGGAGTGATGGATGGCGTTCCCTCGGCTA ATAACTATCAGGGTGGATTTGGAACAACACT CATGGCTAAGGATCTGGGATTGGCACAAGAC TCTGCTACCAGCACAAAGAGCCCAATCCTTC TTGGCAGTCTGGCCCATCAGATCTACAGGAT GATGTGTGCAAAGGGCTACTCAAAGAAAGAC TTCTCATCCGTGTTCCAGTTCCTACGAGAGG AGGAGACCTTCTGA	224	MAASLRLLGAASGLRYWSRR LRPAAGSFAAVCSRSVASKTP VGFIGLGNMGNPMAKNLMKH GYPLIIYDVFPDACKEFQDAGE QVVSSPADVAEKADRIITMLPT SINAIEAYSGANGILKKVKKGS LLIDSSTIDPAVSKELAKEVEK MGAVFMDAPVSGGVGAARSG NLTFMVGGVEDEFAAAQELLG CMGSNVVYCGAVGTGQAAKI CNNMLLAISMIGTAEAMNLGIR LGLDPKLLAKILNMSSGRCWS SDTYNPVPGVMDGVPSANNY QGGFGTTLMAKDLGLAQDSA TSTKSPILLGSLAHQIYRMMCA KGYSKKDFSSVFQFLREEETF *

Shigella ospB	1	prey67608	24	CGCAGAGGAAGAGGAGGCCGAGGTGAGACA GCCCAAGGGACCAGACCCAGACAGCCTTAG TTCACAGTTTATGGCGTATATTGAACAGCGG CGAATCTCTCATGAGGGTTCACCAGTAAAGC CAGTAGCCATTAGGGAGTTTCAAAAAACAGA AGATATGAGAAGATACTTACATCAAAACAGG GTTCCAGCTGAGCCATCTTCCCTCCTGTCAC TATCAGCAAGTCACAATCAGCTGTCACACAC AGACCTGGAACTTCATCAGAGAAGGGAGCAG TTAGTAGAGCGCACTCGGAGAGAGGCTCAG CTTGCTGCCCTGCAGTATGAGGAGGAGAAAA TAAGGACCAAGCAGATCCAGAGAGATGCTGT CCTGGACTTTGTCAAACAAAAAGCATCACAAA GTCCACAAAAACAGCACCCGCTCCTAGATGG CGTAGATGGTGAGTGCCCCTTCCCATCCAGA AGGTCTCAGCACACTGATGATAGTGCCTTGT GCATGTCGCTGTCAGGGTTGAATCAAGTGGG CTGTGCTGCTACCCTGCCTCATTCTTCTGCCT TCACGCCTCTTAAGAGTGATGACAGACCTAA TGCTCTATTAAGTTCACCTGCAACAGAAACAG TTCATCATTCCCCTGCATATTCTTTTCCTGCT GCTATCCAGAGAAATCAGCCTCAGCGCCCT	225	AEEEEAEVRQPKGPDPDSLSS QFMAYIEQRRISHEGSPVKPV AIREFQKTEDMRRYLHQNRVP AEPSSLLSLSASHNQLSHTDL ELHQRREQLVERTRREAQLAA LQYEEEKIRTKQIQRDAVLDFV KQKASQSPQKQHPLLDGVDG ECPFPSRRSQHTDDSALCMS LSGLNQVGCAATLPHSSAFTP LKSDDRPNALLSSPATETVHH SPAYSFPAAIQRNQPQRP
Shigella ospB	1	prey67637	25	ATGATACTACAGGAGTTACCAGATTTGGAGG AGCTCTTCCTGTGCCTTAATGACTATGAAACA GTGTCTTGTCCTTCTATTTGCTGTCATTCTCT TAAGCTACTACATATAACAGACAATAACCTCC AAGACTGGACTGAAATACGAAAGTTAGGAGT TATGTTTCCTTCACTGGATACCCTCGTCCTGG CCAACAATCATTTGAATGCTATTGAGGAGCCT GATGATTCATTGGCCAGGTTGTTTCCTAATCT TCGATCCATCAGCCTCCACAAGTCAGGTTTG CAGTCCTGGGAAGACATTGATAAACTAAATTC ATTTCCCAAACTGGAAGAAGTGAGATTGTTAG GAATTCCTCTTCTGCAGCCATATACCACCGA GGAGCGAAGGAAATTGGTAATAGCCAGATTG	226	MILQELPDLEELFLCLNDYETV SCPSICCHSLKLLHITDNNLQD WTEIRKLGVMFPSLDTLVLAN NHLNAIEEPDDSLARLFPNLRS ISLHKSGLQSWEDIDKLNSFPK LEEVRLLGIPLLQPYTTEERRK LVIARLPSVSKLNGSVVTDGE REDSERFFIRYYVDVPQEEVP FRYHELITKYGKLEPLAEVDLR PQSSAKVEVHFNDQVEEMSIR LDQTVAELKKQLKTLVQL

				CCATCAGTTTCCAAACTTAATGGCAGCGTTGT TACTGATGGTGAACGAGAAGATTCTGAGAGA TTTTTTATTCGTTACTATGTGGATGTTCCACA GGAAGAAGTGCCATTCAGGTATCATGAACTG ATCACTAAATATGGGAAGTTGGAGCCTTTGG CAGAAGTGGACCTAAGACCCCAGAGCAGTG CAAAAGTAGAAGTCCACTTTAACGATCAGGT GGAAGAAATGAGCATTCGTCTGGACCAAACA GTGGCAGAACTAAAGAAACAGTTAAAAACTCT AGTACAATTACC		
Shigella ospB	1	prey12713	26	AGTGGATGAGGTGCTGCAGATCCCCCCATCC CTGCTGACATGCGGCGGCTGCCAGCAGAAC ATCGGGGACCGCTACTTCCTGAAGGCCATCG ACCAGTACTGGCACGAGGACTGCCTGAGCT GCGACCTCTGTGGCTGCCGGCTGGGTGAGG TGGGGCGGCGCCTCTACTACAAACTGGGCC GGAAGCTCTGCCGGAGAGACTATCTCAGGCT TTTTGGGCAAGACGGTCTCTGCGCATCCTGT GACAAGCGGATTCGTGCCTATGAGATGACAA TGCGGGTGAAAGACAAAGTGTATCACCTGGA ATGTTTCAAGTGCGCCGCCTGTCAGAAGCAT TTCTGTGTAGGTGACAGATACCTCCTCATCAA CTCTGACATAGTGTGCGAACAGGACATCTAC GAGTGGACTAAGATCAATGGGATGATATAG	227	VDEVLQIPPSLLTCGGCQQNI GDRYFLKAIDQYWHEDCLSCD LCGCRLGEVGRRLYYKLGRKL CRRDYLRLFGQDGLCASCDK RIRAYEMTMRVKDKVYHLECF KCAACQKHFCVGDRYLLINSDI VCEQDIYEWTKINGMI*
Shigella ospB	1	prey67836	27	CCTGAAGACAGCTGGCAAGTCTGAACCTTCC AGCAAGTTGCGAAAGCAACTTAAAAAGCAGC AAGACTCTTTAGATGTCGTGGACTCTTCGGT CTCCTCTTTATGTCTGTCTAACACGGCATCAT CTCATGGGACCAGAAAACTATTTCAGATTTAT TCCAAATCTCCATTCTACCGAGCTGCCTCAG GTAATGAGGCCCTGGGAATGGAAGGACCATT GGGCCAGACCAAATTCCTGGAAGACAAGCCT CAGTTCATCAGCAGAGGAACCTTCAACCCGG AAAAGGGCAAACAAAAATTAAAGAATGTGAAA AACTCACCTCAGAAAACCAAAGAGACCCCAG	228	LKTAGKSEPSSKLRKQLKKQQ DSLDVVDSSVSSLCLSNTASS HGTRKLFQIYSKSPFYRAASG NEALGMEGPLGQTKFLEDKP QFISRGTFNPEKGKQKLKNVK NSPQKTKETPEGTVMSGRRK TVDPDCTSNQQ

				AGGGGACAGTCATGTCTGGCCGCAGAAAAAC TGTGGACCCAGACTGCACCTCCAACCAACAG C		
Shigella ospB	1	prey700	28	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGA ACATGAATAGACTACCAGGTTGGGATAAGCA TTCATATGGTTACCATGGGGATGATGGACATT CGTTTTGTTCTTCTGGAACTGGACAACCTTAT GGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGC TTTTACACCAAGAATGGACATAGTTTAGGTAT TGCTTTCACTGACCTACCGCCAAATTTGTATC CTACTGTGGGGCTTCAAACACCAGGAGAAGT GGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGT GGAGAACCAAAATCCAGGCACAGATAGATCG ATTTCCTATCGGAGATCGAGAAGGAGAATGG CAGACCATGATACAAAAAATGGTTTCATCTTA TTTAGTCCACCATGGGTACTGTGCCACAGCA GAGGCCTTTGCCAGATCTACAGACCAGACCG TTCTAGAAGAATTAGCTTCCATTAAGAATAGA CAAAGAATTCAGAAATTGGTATTAGCAGGAA GAATGGGAGAAGCCATTGAAACAACACAACA GTTATACCCAAGTTTACTTGAAAG	229	MGIGLSAQGVNMNRLPGWDK HSYGYHGDDGHSFCSSGTGQ PYGPTFTTGDVIGCCVNLINNT CFYTKNGHSLGIAFTDLPPNLY PTVGLQTPGEVVDANFGQHP FVFDIEDYMREWRTKIQAQID RFPIGDREGEWQTMIQKMVS SYLVHHGYCATAEAFARSTDQ TVLEELASIKNRQRIQKLVLAG RMGEAIETTQQLYPSLLE
Shigella ospB	1	prey67844	29	TTCCATACAGGAACCCCATCTGAAGGTCACC AACATCAAAGACCAAAGGTAGATAAATCCAC GAAGTTGAGGAAAAACCAGTGCAAAAAGGCT GAGAATTCCAAAAACCAGAAAGGCTCTTCTC CTCCAAAGGATCAAAACTCCTCGCCAGCAAG GGAACAAAACCAGATGGAGAATGAGTTTGAT GAATTGACAGAAGTAGGCTTCAGAAGGTGGG TAATAACAAGTAAGCTAAAGGAGCATGTTCTA ACCCAATGCAAGGAAGTTAAGAACCTTGAAA AAAGGTTATG	230	FHTGTPSEGHQHQRPKVDKS TKLRKNQCKKAENSKNQKGS SPPKDQNSSPAREQNQMENE FDELTEVGFRRWVITSKLKEH VLTQCKEVKNLEKRL
Shigella ospB	1	prey67853	30	GCCGTGGACGGTGAGGGTGCCGGCCTCACC TCGGAGGCATGGAAGTACCAGGTTACTTCAC	231	AVDGEGAGLTSEAWKYQVTS HREDRFPLSSRLRLALKNLGA

				ATCGAGAGGACCGTTTTCCTCTTTCCAGTCG GCTGCGGTTGGCACTGAAGAATCTTGGTGCT GACAGACACAGAGCAGGGTCTCTCGTGGAA CAGGAGTTGTCTGGTCTGTTCAGTTTGATGA GTGGCAGAAAATGAGACGATGGGAAGTGTGT GTGTGGGCCTNTTTTTNGGTGCTNNGGNNGN NN		DRHRAGSLVEQELSGLFSLMS GRK*DDGKCVCGPXFXCXGX
Shigella ospB	1	prey66272	31	ATGTGGGCCCTGGGTCAAGCAGGTTTTGCCA ACCTCACCGAGGGACTGAAAGTGTGGCTGG GGATCATGCTGCCTGTGCTGGGCATCAAGTC TCTGTCTCCCTTTGCCATCACATACCTGGATC GGCTGCTCCTGATGCATCCCAACCTTACCAA GGGCTTCGGCATGATTGGCCCCAAGGACTTC TTCCCACTTCTGGACTTTGCCTATATGCCGAA CAACTCCCTGACACCCAGCCTGCAGGAGCA GCTGTGTCAGCTCTACCCCCGACTGAAAGTG CTGGCATTTGGAGCAAAGCCGGATTCCACCC TGCATACCTACTTCCCTTCTTTCCTGTCCAGA GCCACCCCTAGCTGTCCCCCTGAGATGAAGA AAGAGCTCCTGAGCAGCCTGACTGAGTGCCT GACGGTGGACCCCCTCAGTGCCAGCGTCTG GAGGCAGCTGTACCCTAAGCACCTGTCACAG TCCAGCCTTCTGCTGGAGCACTTGCTCAGCT CCTGGGAGCAGATTCCCAAGAAGGTACAGAA GTCTTTGCAAGAAACCATTCAGTCCCTCAAG CTTACCAACCAGGAGCTGCTGAGGAAGGGTA GCAGTAACAACCAGGATGTCGTCACCTGTGA CATGGCCTGCAAGGGCCTGTTGCAGCAGGTT CAGGGTCCTCGGCTGCCCTGGACGCGGCTC CTCCTGTTGCTGCTGGTCTTCGCTGTAGGCT TCCTGTGCCATGACCTCCGGTCACACAGCTC CTTCCAGGCCTCCCTTACTGGCCGGTTGCTT CGATCATCTGGCTTCTTACCTGCTAGCCAAC AAGCGTGTGCCAAGCTCTACTCCTACAGTCT GCAAGGCTACAGCTGGCTGGGGGAGACACT	232	MWALGQAGFANLTEGLKVWL GIMLPVLGIKSLSPFAITYLDRL LLMHPNLTKGFGMIGPKDFFP LLDFAYMPNNSLTPSLQEQLC QLYPRLKVLAFGAKPDSTLHT YFPSFLSRATPSCPPEMKKEL LSSLTECLTVDPLSASVWRQL YPKHLSQSSLLLEHLLSSWEQI PKKVQKSLQETIQSLKLTNQEL LRKGSSNNQDVVTCDMACKG LLQQVQGPRLPWTRLLLLLLV FAVGFLCHDLRSHSSFQASLT GRLLRSSGFLPASQQACAKLY SYSLQGYSWLGETLPLWGSH LLTVVRPSLQLAWAHTNATVS FLSAHCASHLAWFGDSLTSLS QRLQIQLPDSVNQLLRYLREL PLLFHQNVLLPLWHLLLEALA WAQEHCHEACRGEVTWDCM KTQLSEAVHWTWLCLQDITVA FLDWALALISQQ*

				GCCGCTCTGGGGCTCCCACCTGCTCACCGT GGTGCGGCCCAGCTTGCAGCTGGCCTGGGC TCACACCAATGCCACAGTCAGCTTCCTTTCTG CCCACTGTGCCTCTCACCTTGCGTGGTTTGG TGACAGTCTCACCAGTCTCTCTCAGAGGCTA CAGATCCAGCTCCCCGATTCCGTGAATCAGC TACTCCGCTATCTGAGAGAGCTGCCCCTGCT TTTCCACCAGAATGTGCTGCTGCCACTGTGG CACCTCTTGCTTGAGGCCCTGGCCTGGGCC CAGGAGCACTGCCATGAGGCATGCAGAGGT GAGGTGACCTGGGACTGCATGAAGACACAG CTCAGTGAGGCTGTCCACTGGACCTGGCTTT GCCTACAGGACATTACAGTGGCTTTCTTGGA CTGGGCACTTGCCCTGATATCCCAGCAGTAG		
Shigella ospD1	2	prey700	32	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGA ACATGAATAGACTACCAGGTTGGGATAAGCA TTCATATGGTTACCATGGGGATGATGGACATT CGTTTTGTTCTTCTGGAACTGGACAACCTTAT GGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGC TTTTACACCAAGAATGGACATAGTTTAGGTAT TGCTTTCACTGACCTACCGCCAAATTTGTATC CTACTGTGGGGCTTCAAACACCAGGAGAAGT GGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGT GGAGAACCAAAATCCAGGCACAGATAGATCG ATTTCCTATCGGAGATCGAGAAGGAGAATGG CAGACCATGATACAAAAAATGGTTTCATCTTA TTTAGTCCACCATGGGTACTGTGCCACAGCA GAGGC	233	MGIGLSAQGVNMNRLPGWDK HSYGYHGDDGHSFCSSGTGQ PYGPTFTTGDVIGCCVNLINNT CFYTKNGHSLGIAFTDLPPNLY PTVGLQTPGEVVDANFGQHP FVFDIEDYMREWRTKIQAQID RFPIGDREGEWQTMIQKMVS SYLVHHGYCATAE
Shigella ospD1	2	prey2492	33	CACCAACCTAAAGAGACAGGCTAACAAGAAG AGTGAGGGCAGCCTGGCCTATGTGAAAGGC GGTCTCAGTACATTCTTCGAAGCACAGGATG CCCTCTCAGCCATCCATCAAAAACTAGAAGC AGATGGAACGGAAAAAGTAGAAGGATCCATG	234	TNLKRQANKKSEGSLAYVKG GLSTFFEAQDALSAIHQKLEAD GTEKVEGSMTQKLENVLNRA SNTADTLFQEVLGRKDKADST RNALNVLQRFKFLFNLPLNIER

				ACGCAGAAACTGGAGAATGTTCTGAACAGAG CAAGTAATACTGCAGACACATTGTTTCAAGAA GTATTAGGTCGGAAAGACAAGGCAGATTCCA CTAGAAATGCACTCAATGTGCTTCAGCGATTT AAGTTTCTTTTCAACCTTCCTCTAAATATTGAA AGGAATATTCAAAAGGGTGATTATGATGTGGT TATTAATGATTATGAAAAGGCCAAGTCACTTT TTGGGAAAACGGAGGTGCAAGTTTTCAAGAA ATATTATGCTGAAGTAGAAACAAGGATTGAAG CTTTAAGAGAATTACTTCTGGATAAATTGCTT GAGACACCATCAACTTTACATGACCAAAAAC GTTACATAAGGTACCTGTCTGACCTTCATGC GTCTGGTGACCCTGCTTGGCAATGCATTGGA GCCCAACACAAGTGGATCCTTCAGCTCATGC ACAGTTGCAAAGAGGGCTACGTGAAAGATCT GAAAGGTAACCCAGGCCTGCACAGTCCCATG TTGGATCTTGATAATGATACACGTCCCTCAGT GTTGGGCCATCTCAGTCAGACAGCGTCCCTG AAGAGGGGCAGCAGCTTTCAGTCTGGTCGA GACGACACGTGGAGATACAAAACTCCCCACA GGGTGGCCTTTGTTGAAAAATTGACAAAACT CGTCTTGAGCCAGCTGCCTAACTTCTGGAAA CTCTGGATCTCCTACGTTAATGGAAGCCTCTT CAGTGAGACTGCTGAGAAGTCAGGCCAGATT GAAAGATCAAAGAATGTAAGGCAAAGACAAA ATGATTTTAAGAAAATGATTCAGGAAGTAATG CACTCCCTGGTGAAGCTTACCCGCGGAGCC CTGCATCCCCTCAGCATCCGGGATGGGGAA GCCAAGCAGTACGGAGGCTGGGAGGTGAAG TGCGAGCTCTCCGGACAGTGGCTCGCTCAC GCCATCCAGACTGTAAGACTTACTCATGAATC GTTGACTGCCCTTGAAATTCCTAATGACCTGT TACAGACTATCCAGGATCTCATCTTGGATCTC CGAGTACGTTGCGTAATGGCCACGTTGCAGC ACACGGCGGAAGAAATAAAGAGATTAGCTGA AAAAGAAGACTGGATTGTTGACAATGAAGGA		NIQKGDYDVVINDYEKAKSLF GKTEVQVFKKYYAEVETRIEAL RELLLDKLLETPSTLHDQKRYI RYLSDLHASGDPAWQCIGAQ HKWILQLMHSCKEGYVKDLKG NPGLHSPMLDLDNDTRPSVLG HLSQTASLKRGSSFQSGRDD TWRYKTPHRVAFVEKLTKLVL SQLPNFWKLWISYVNGSLFSE TAEKSGQIERSKNVRQRQNDF KKMIQEVMHSLVKLTRGALHP LSIRDGEAKQYGGWEVKCELS GQWLAHAIQTVRLTHESLTAL EIPNDLLQTIQDLILDLRVRCV MATLQHTAEEIKRLAEKEDWIV DNEGLTSLPCQFEQCIVCSLQ SLKGVLECKPGEASVFQQPKT QEEVCQLSINIMQVFIYCLEQL STKPDADIDTTHLSVDVSSPDL FGSIHEDFSLTSEQR

				CTGACTTCTCTACCATGTCAGTTTGAACAGTG CATCGTGTGTTCTCTGCAGTCACTGAAGGGG GTTCTGGAGTGCAAGCCGGGAGAGGCTAGT GTCTTCCAACAACCTAAAACACAGGAGGAGG TTTGCCAGCTAAGCATCAATATAATGCAGGTT TTTATATACTGTCTGGAACAGTTGAGCACCAA GCCTGATGCAGATATAGATACTACACATCTCT CTGTTGATGTTTCTTCCCCTGACTTGTTTGGA AGTATCCATGAAGACTTCAGCTTGACCTCAG AACAGCGCC		
Shigella ospD1	2	prey67651	34	CAGTATAAGAAGGCCTTAGAGAATGAAACAA ATGAGGAGAAATCTGGCACACCAGGAGCTGA TAAAGCAGAAAAAAGATATAAGTATACAGTTA AGCTCANCCCAGTCTCGTTGTACTCTTCTAGA GAAGCAACTAGAATATACAAAGAGAATGGTT CTCAACGTAGGAGCGAGAAAAGAACATGATC CTAGAACAACAGGCCCAGCTTCAGAGGGAAA AAGAACAAGATCAGATGAAGCTGTATGCAAA ACTTGAAAAGCTTGATGTCTTANAAAAAGAGT GTTTCAGACTTACAACAACTCAGN	235	QYKKALENETNEEKSGTPGAD KAEKRYKYTVKLXPVSLYSSR EATRIYKENGSQRRSEKRT*S* NNRPSFRGKKNKIR*SCMQNL KSLMSXKKSVSDLQQLX
Shigella ospD1	2	prey67653	35	CCCTGAAATCTGCAAAATGGCTGATAATTTGG ATGAATTTATTGAAGAGCAAAAAGCCAGATTG GCCGAAGACAAAGCAGAGTTGGAAAGTGATC CACCTTACATGGAAATGAAGGGAAAGTTGTC AGCGAAGCTTTCTGAAAACAGTAAGATACTG ATCTCTATGGCTAAGGAAAACATACCACCAAA TAGTCAACAGACCAGGGGTTCCTTAGGAATT GATTATGGATTAAGTTTACCACTTGGAGAAGA CTATGAACGGAAGAAACATAAATTAAAAGAAG AATTGCG	236	PEICKMADNLDEFIEEQKARLA EDKAELESDPPYMEMKGKLS AKLSENSKILISMAKENIPPNS QQTRGSLGIDYGLSLPLGEDY ERKKHKLKEEL
Shigella ospD1	2	prey67667	36	CGACCAGGGCACACCCCAGTACATGGAGAA CATGGAGCAGGTGTTTGAGCAGTGCCAGCA GTTCGAGGAGAAACGCCTTCGCTTCTTCCGG GAGGTTCTGCTGGAGGTTCAGAAGCACCTAA ACCTGTCCAATGTGGCTGGTTACAAAGCCAT	237	DQGTPQYMENMEQVFEQCQ QFEEKRLRFFREVLLEVQKHL NLSNVAGYKAIYHDLEQSIRAA DAVEDLRWFRANHGPGMAM NWPQFEEWSADLIRTLSRREK

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				TTACCATGACCTGGAGCAGAGCATCAGAGCA GCTGATGCAGTGGAGGACCTGAGGTGGTTC CGAGCCAATCACGGGCCAGGCATGGCCATG AACTGGCCGCAGTTTGAGGAGTGGTCCGCA GACCTGATTCGAACCCTCAGCCGGAGAGAGA AGAAGAAGGCCACTGACGGCTTCACCCTGAC GGGCATCAACCAGACAGGCGACCAGTTTTTG CCGAGTAAGCCCAGCAGCAC		KKATDGFTLTGINQTGDQFLP SKPSS
Shigella ospD1	2	prey67657	37	CCCGCCTGCCATGGACTGGATCTTCCAGTGC ATCTCCTACCATGCCCCCGAGGCTCTGCTGA CCGAGATGATGGAAAGGTGTAAGAAACTAGG AAACAATGCCTTGCTGTTGAATTCTGTGATGT CTGCCTTCCGGGCTGAGTTCATCGCCACAAG GTCTATGGATTTCATTGGCATGATTAAAGAGT GTGATGAATCTGGTTTCCCCAAGCATCTTCTT TTTCGATCACTGGGATTAAACTTGGCCTTGG CTGATCCTCCTGAGAGTGACCGACTTCAGAT TCTCAACGAAGCTTGGAAAGTCATCACTAAG CTGAAGAACCCACAGGACTACATTAATTGTG CCGAAGTGTGGGTGGAATACACCTGCAAGCA TTTCACGAAACGAGAGGTGAATACCGTTTTG GCAGATGTCATCAAGCACATGACTCCAGATC GTGCATTTGAAGATTCCTACCCCCAGCTTCA GTTAATAATTAAGAAAGTTATTGCCCACTTCC ATGACTTCTCAGTTCTTTTCTCAGTGGAAAAA TTTCTGCCGTTTCTGGACATGTTCCAAAAAGA GAGTGTGCGGGTGGAGGTTTGCAAATGCATC ATGGACGCCTTTATCAAGCATCAACAAGAGC CCACCAAGGACC	238	PPAMDWIFQCISYHAPEALLTE MMERCKKLGNNALLLNSVMS AFRAEFIATRSMDFIGMIKECD ESGFPKHLLFRSLGLNLALAD PPESDRLQILNEAWKVITKLKN PQDYINCAEVWVEYTCKHFTK REVNTVLADVIKHMTPDRAFE DSYPQLQLIIKKVIAHFHDFSVL FSVEKFLPFLDMFQKESVRVE VCKCIMDAFIKHQQEPTKD
Shigella ospD1	2	prey67501	38	CTTCCGCCTGGAACAGCTGGAATGCCTTGAT GATGCAGAAAAAAAATTAAACTTGGCCCAGA AATGCTTTAAAAATTGTTACGGAGAAAATCAT CAGAGACTGGTCCACATAAAAGGAAATTGTG GGAAAGAGAAGGTACTGTTTCTAAGACTCTA CTTACTTCAAGGGATCCGAAACTATCACAGT	239	FRLEQLECLDDAEKKLNLAQK CFKNCYGENHQRLVHIKGNC GKEKVLFLRLYLLQGIRNYHS GNDVEAYEYLNRHVSSLKSYI LIHQKWTICCSWGLLPRKHRL GLRACDGNVDHAATHITNRRE

				GGAAATGATGTAGAGGCTTATGAGTATCTTAA CAGGCACGTCAGCTCTTTAAAGAGCTATATAT TGATCCATCAAAAGTGGACAATTTGTTGCAGT TGGGGTTTACTGCCCAGGAAGCACCGGCTTG GCCTGAGGGCGTGTGATGGGAACGTGGATC ATGCGGCCACTCATATTACCAACCGCAGAGA GGAACTGGCCCAAATAAGGAAGGAGGAAAAA GAGAAGAAAAGACGCCGCCTCGAGAACATCA GGTTTCTGAAAGGGATGGGCTACTCCACGCA CG		ELAQIRKEEKEKKRRRLENIRF LKGMGYSTH
Shigella ospD1	2	prey67678	39	GAACAAGCTGAGGGTGTTGGACCCAGAGGTT ACCCAGCAGACCATAGAGCTGAAGGAAGAGT GCAAAGACTTTGTGGACAAAATTGGCCAGTT TCAGAAAATAGTTGGTGGTTTAATTGAGCTTG TTGATCAACTTGCAAAAGAAGCAGAAAATGAA AAGATGAAGGCCATCGGTGCTCGGAACTTGC TCAAATCTATAGCAAAGCAGAGAGAAGCTCA ACAGCAGCAACTTCAAGCCCTAATAGCAGAA AAGAAAATGCAGCTAGAAAGGTATCGGGTTG AATATGAAGCTTTGTGTAAAGTAGAAGCAGAA CAAAATGAATTTATTGACCAATTTATTTTTCAG AAATGA	240	NKLRVLDPEVTQQTIELKEECK DFVDKIGQFQKIVGGLIELVDQ LAKEAENEKMKAIGARNLLKSI AKQREAQQQQLQALIAEKKM QLERYRVEYEALCKVEAEQNE FIDQFIFQK*
Shigella ospD1	2	prey67578	40	ATGGCGGTGGAGACTCTGTCCCCGGACTGG GAGTTTGACCGCGTTGACGACGGCTCGCAG AAAATTCATGCCGAAGTCCAACTTAAGAATTA TGGGAAATTTCTTGAGGAGTATACCTCTCAAC TGAGAAGAATTGAGGACGCTCTGGATGACTC AATTGGAGATGTTTGGGATTTCAATCTTGATC CTATAGCATTAAAGCTTTTGCCTTATGAACAG TCCTCTCTTTTGGAACTCATAAAGACTGAAAA CAAGGTCTTAAACAAAGTCATCACTGTTTATG CTGCACTTTGTTGTGAAATCAAGAAATTAAAA TATGAGGCTGAAACTAAATTTTACAATGGTCT CTTGTTTTATGGAGAAGGAGCTACAGATGCC AGCATGGTGGAAGGTGATTGCCAAATTCAAA	241	MAVETLSPDWEFDRVDDGSQ KIHAEVQLKNYGKFLEEYTSQL RRIEDALDDSIGDVWDFNLDPI ALKLLPYEQSSLLELIKTENKVL NKVITVYAALCCEIKKLKYEAE TKFYNGLLFYGEGATDASMVE GDCQIQMGRFISFLQELSCFV TRCYEVVMNVVHQLAALYISN KIAPKIIETTGVHFQTMYEHLG ELLTVLLTLDEIIDNHITLKDHW TMYKRLLKSVHHNPSKFGIQE EKLKPFEKFLLKLEGQLLDGMI FQACIEQQFDSLNGGVSVSKN

				TGGGGAGATTTATTTCATTCTTACAGGAACTG TCTTGCTTTGTTACGAGGTGCTATGAAGTGGT GATGAACGTAGTCCACCAGTTGGCTGCCCTC TATATCAGTAACAAGATTGCACCCAAAATTAT AGAGACAACTGGAGTTCATTTTCAGACTATGT ATGAGCACTTGGGAGAACTGCTAACAGTTTT GCTCACCCTGGATGAAATTATTGATAATCATA TCACACTGAAAGACCACTGGACTATGTACAA AAGGTTACTGAAATCTGTCCATCACAATCCTT CAAAATTTGGAATTCAGGAAGAAAAATTAAAG CCATTTGAAAAGTTCTTGCTGAAGCTAGAAG GGCAATTACTGGATGGAATGATATTCCAGGC CTGTATAGAACAACAATTTGATTCTCTCAATG GAGGAGTATCTGTGTCAAAAAATAGTACTTTT GCTGAGGAATTTGCACATAGTATTCGGTCAAT TTTTGCAAATGTAGAAGCCAAACTTGGAGAAC CTTCTGAAATTGACCAGAGAGACAAGTATGTT GGAATTTGTGGACTCTTTGTATTGCACTTTCA GATTTTTCGAACTATTGATAAAAAGTTTTATAA GTCTTTATTGGAC		STFAEEFAHSIRSIFANVEAKL GEPSEIDQRDKYVGICGLFVL HFQIFRTIDKKFYKSLLD
Shigella ospD1	2	prey67580	41	GCACTCCCCGCCGCTCCGACTCCGCCATCTC TGTCCGCTCCCTGCACTCAGAGTCCAGCATG TCTCTGCGCTCCACATTCTCACTGCCCGAGG AGGAGGAGGAGCCGGAGCCACTGGTGTTTG CGGAGCAGCCCTCGGTGAAGCTGTGCTGTC AGCTCTGCTGCAGCGTCTTCAAAGACCCCGT GATCACCACGTGTGGGCACACGTTCTGTAGG AGATGCGCCTTGAAGTCAGAGAAGTGTCCCG TGGACAACGTCAAACTGACCGTGGTGGTGAA CAACATCGCGGTGGCCGAGCAGATCGGGGA GCTCTTCATCCACTGCCGGCACGGCTGCCG GGTAGCGGGCAGCGGGAAGCCCCCCATCTT TGAGGTGGACCCCCGAGGGTGCCCCTTCAC CATCAAGCTCAGCGCCCGGAAGGACCACGA GGGCAGCTGTGACTACAGGCCTGTGCGGTG	242	TPRRSDSAISVRSLHSESSMS LRSTFSLPEEEEEPEPLVFAE QPSVKLCCQLCCSVFKDPVIT TCGHTFCRRCALKSEKCPVD NVKLTVVVNNIAVAEQIGELFIH CRHGCRVAGSGKPPIFEVDPR GCPFTIKLSARKDHEGSCDYR PVRCPNNPSCPPLLRMNLEAH LKECEHIKCPHSKYGCTFIGN QDTYETHLETCRFEGLKEFLQ QTDDRFHEMHVALAQKDQEIA FLRSMLGKLSEKID

				TCCCAACAACCCCAGCTGCCCCCCGCTGCTC AGGATGAACCTGGAGGCCCACCTCAAGGAG TGCGAGCACATCAAATGCCCCCACTCCAAGT ACGGGTGCACGTTCATCGGGAACCAGGACA CTTACGAGACCCACCTGGAGACTTGCCGCTT CGAGGGCCTGAAGGAGTTTCTGCAGCAGAC GGATGACCGCTTCCACGAGATGCACGTGGCT CTGGCCCAGAAGGACCAGGAGATCGCCTTC CTGCGCTCCATGCTGGGAAAGCTCTCGGAGA AGATCGACC		
Shigella ospD1	2	prey3160	42	CAGAAAACTACATGAACTTACGGTTATGCAAG ATAGACGAGAACAAGCAAGACAAGACTTGAA GGGTTTGGAAGAGACAGTGGCAAAAGAACTT CAGACTTTACACAACCTGCGCAAACTCTTTGT TCAGGACCTG	243	RKLHELTVMQDRREQARQDL KGLEETVAKELQTLHNLRKLF VQDL
Shigella ospD1	2	prey50427	43	ATGGAGGAGTATGAGAAGTTCTGTGAAAAAA GTCTTGCCAGAATACAAGAAGCATCACTATC CACAGAGAGCTTTCTCCCTGCTCAGTCTGAA AGTATCTCACTTATTCGCTTTCATGGAGTGGC TATCCTTTCTCCACTGCTTAACATTGAGAAAA GAAAGGAAATGCAACAAGAAAAGCAGAAAGC ACTTGATGTAGAAGCAAGAAAGCAGGTTAAC AGGAAGAAAGCTTTACTGACTCGTGTCCAGG AGATTCTTGACAATGTTCAGGTTAGAAAAGCA CCTAATGCCAGTGATTTTGATCAGTGGGAGA TGGAAACAGTTTACTCTAATTCAGAAGTCAGA AACTTGAATGTTCCTGCTACATTTCCAAATAG CTTTCCAAGCCATACGGAACACTCTACTGCA GCAAAGCTTGATAAGATAGCTGGGATTTTGC CATTGGATAATGAGGACCAATGTAAAACTGAT GGAATAGACTTAGCTAGAGATTCAGAAGGAT TTAATTCTCCGAAGCAATGTGATAGTTCCAAT ATTAGTCATGTAGAAAATGAAGCTTTTCCAAA GACCTCTTCAGCAACCCCACAAGAAACTCTT ATTTCTGATGGTCCCTTCTCAGTAAATGAACA	244	MEEYEKFCEKSLARIQEASLS TESFLPAQSESISLIRFHGVAIL SPLLNIEKRKEMQQEKQKALD VEARKQVNRKKALLTRVQEIL DNVQVRKAPNASDFDQWEME TVYSNSEVRNLNVPATFPNSF PSHTEHSTAAKLDKIAGILPLD NEDQCKTDGIDLARDSEGFNS PKQCDSSNISHVENEAFPKTS SATPQETLISDGPFSVNEQQD LPLLAEVIPDPYVMSLQNLMKK SKEYIEREQSRRSLRGSMNRI VNESHLDKEHDAVEVADCVKE KGQLTGKHCVSVIPDKPSLNK SNVLLQGASTQASSMSMPVL ASFSKVDIPIRTGHPTVLESNS DFKVIPTIVTENNVIKSLTGSYA KLPSPEPSMSPKMHRRR

				ACAGGATCTACCACTTTTGGCAGAAGTCATC CCAGATCCCTATGTAATGAGTCTTCAGAATCT GATGAAAAAGTCAAAGGAATATATAGAAAGA GAACAATCTAGACGCAGTCTGAGAGGTAGTA TGAACAGAATTGTTAATGAGAGTCATTTAGAC AAAGAACATGATGCTGTTGAAGTGGCTGACT GTGTAAAAGAGAAAGGCCAGTTGACAGGCAA ACACTGTGTCTCAGTTATTCCTGACAAACCAA GCCTTAATAAATCAAATGTTCTTCTCCAAGGT GCTTCCACTCAAGCAAGCAGCATGAGTATGC CAGTTTTAGCTAGCTTTTCGAAAGTGGACATA CCTATACGAACTGGCCATCCCACTGTTCTAG AGTCTAATTCTGATTTTAAAGTTATTCCCACTA TTGTTACCGAAAATAATGTTATCAAAAGTCTT ACAGGTTCATATGCCAAATTACCTAGTCCAGA GCCAAGTATGAGTCCTAAAATGCACCGAAGA CGT		
Shigella ospD1	2	prey63765	44	GGACAGCCCAACCTCTGGCAGACCAGGGGT TACCAGCCTCACAACTGCAGCTGCCTTCAAG CCTGTAGGATCCACTGGCGTCATCAAGTCAC CAAGCTGGCAACGGCCAAACCAAGGAGTAC CTTCCACTGGAAGAATCTCAAACAGCGCTAC TTACTCAGGATCAGTGGCACCAGCCAACTCA GCTTTGGGACAAACCCAGCCAAGTGACCAGG ACACTTTAGTGCAAAGAGCTGAGCACATTCC AGCAGGGAAACGAACTCCGATGTGCGCCCAT TGTAACCAGGTCATCAGAGGACCATTCTTAG TGGCACTGGGGAAATCTTGGCACCCAGAAGA ATTCAACTGCGCTCACTGCAAAAATACAATGG CCTACATTGGATTTGTAGAGGAGAAAGGAGC CCTGTATTGTGAGCTGTGCTATGAGAAATTCT TTGCCCCTGAATGTGGTCGATGCCAAAGGAA GATCCTTGGAGAAGTCATCAATGCGTTGAAA CAAACTTGGCATGTTTCCTGTTTTGTGTGTGT AGCCTGTGGAAAGCCCATTCGGAACAATGTT	245	DSPTSGRPGVTSLTTAAAFKP VGSTGVIKSPSWQRPNQGVP STGRISNSATYSGSVAPANSA LGQTQPSDQDTLVQRAEHIPA GKRTPMCAHCNQVIRGPFLVA LGKSWHPEEFNCAHCKNTMA YIGFVEEKGALYCELCYEKFFA PECGRCQRKILGEVINALKQT WHVSCFVCVACGKPIRNNVF HLEDGEPYCETDYYALFGTIC HGCEFPIEAGDMFLEALGYTW HDTCFVCSVCCESLEGQTFFS KKDKPLCKKHAHSVNF*

				TTTCACTTGGAGGATGGTGAACCCTACTGTG AGACTGATTATTATGCCCTCTTTGGTACTATA TGCCATGGATGTGAATTTCCCATAGAAGCTG GTGACATGTTCCTGGAAGCTCTGGGCTACAC CTGGCATGACACTTGCTTTGTATGCTCAGTGT GTTGTGAAAGTTTGGAAGGTCAGACCTTTTTC TCCAAGAAGGACAAGCCCCTGTGTAAGAAAC ATGCTCATTCTGTGAATTTTTGA		
Shigella ospD1	2	prey67623	45	ATTTTATAGGAGGCATACACCATACATGGTAC AGCCAGAGTACCGAATCTATGAGATGAACAA GAGACTGCAGTCTCGCACAGAGGATAGTGAC AACCTCTGGTGGGACGCCTTTGCCACTGAAT TTTTTGAAGATGACGCCACATTAACCCTTTCA TTTTGTTTGGAAGATGGACCAAAGCGATACA CTATCGGCAGGACCCTCATCCCCCGTTACTT TAGCACTGTGTTTGAAGGAGGGGTGACCGAC CTGTATTACATTCTCAAACACTCGAAAGAGTC ATACCACAACTCATCCATCACGGTGGACTGC GACCAGTGTACCATGGTCACCCAGCACGGG AAGCCCATGTTTACCAAGGTATGTACAGAAG GCAGACTGATCTTGGAGTTCACCTTTGATGAT CTCATGAGAATCAAAACATGGCACTTTACCAT TAGACAATACCGAGAGTTAGTCCCGAGAAGC ATCCTAGCCATGCATGCACAAGATCCTCAGG TCCTGGATCAGCTGTCCAAAAACATCACCAG GATGGGGCTAACAAACTTCACCCTCAACTAC CTCAGGTTGTGTGTAATATTGGAGCCAATGC AGGAACTGATGTCGAGACATAAAACTTACAA CCTCAGTCCCCGAGACTGCCTGAAGACCTGC TTGTTTCAGAAGTGGCAGAGGATGGTGGCTC CGCCAGCAGAACCCACAAGGCAACCAA	246	FYRRHTPYMVQPEYRIYEMNK RLQSRTEDSDNLWWDAFATE FFEDDATLTLSFCLEDGPKRY TIGRTLIPRYFSTVFEGGVTDL YYILKHSKESYHNSSITVDCDQ CTMVTQHGKPMFTKVCTEGR LILEFTFDDLMRIKTWHFTIRQ YRELVPRSILAMHAQDPQVLD QLSKNITRMGLTNFTLNYLRLC VILEPMQELMSRHKTYNLSPR DCLKTCLFQKWQRMVAPPAE PTRQP
Shigella ospD1	2	prey7315	46	ATGCTGGATAGGGATGTGGGCCCAACTCCCA TGTATCCGCCTACATACCTGGAGCCAGGGAT TGGGAGGCACACACCATATGGCAACCAAACT GACTACAGAATATTTGAGCTTAACAAACGGCT	247	MLDRDVGPTPMYPPTYLEPGI GRHTPYGNQTDYRIFELNKRL QNWTEECDNLWWDAFTTEFF EDDAMLTITFCLEDGPKRYTIG

				TCAGAACTGGACAGAGGAGTGTGACAATCTC TGGTGGGATGCATTCACGACTGAGTTCTTTG AGGATGATGCCATGTTGACCATCACTTTCTG CCTGGAGGATGGACCAAAGAGATATACCATT GGCCGGACCCTGATCCCACGCTACTTCCGCA GCATCTTTGAGGGGGGTGCTACGGAGCTGTA CTATGTTCTTAAGCACCCCAAGGAGGCATTC CACAGCAACTTTGTGTCCCTCGACTGTGACC AGGGCAGCATGGTGACCCAGCATGGCAAGC CCATGTTCACCCAGGTGTGTGTGGAGGGCC GGTTGTACCTGGAGTTCATGTTTGACGACAT GATGCGGATAAAGACGTGGCACTTCAGCATC CGGCAGCACCGAGAGCTCATCCCCCGCAGC ATCCTTGCCATGCATGCCCAAGACCCCCAGA TGTTGGATCAGCTCTCCAAAAACATCACTCG GTGTGGGCTGTCCAATTCCACTCTCAACTAC CTCCGACTCTGTGTGATACTCGAGCCCATGC AAGAGCTCATGTCACGCCACAAGACCTACAG C		RTLIPRYFRSIFEGGATELYYV LKHPKEAFHSNFVSLDCDQGS MVTQHGKPMFTQVCVEGRLY LEFMFDDMMRIKTWHFSIRQH RELIPRSILAMHAQDPQMLDQ LSKNITRCGLSNSTLNYLRLCV ILEPMQELMSRHKTYS
Shigella ospD1	2	prey67601	47	AGTCACTGCTTCAACCACCTGTGAGAAATTA GAAAAAGCCAGGAATGAGTTACAAACAGTGT ATGAAGCATTCGTCCAGCAGCACCAGGCTGA AAAAACAGAACGAGAGAATCGGCTTAAAGAG TTTTACACCAGGGAGTATGAAAAGCTTCGGG ACACTTACATTGAAGAAGCAGAGAAGTACAA AATGCAATTGCAAGAGCAGTTTGACAACTTAA ATGCTGCGCATGAAACCTCTAAGTTGGAAATT GAAGCTAGCCACTCAGAGAAACTTGAATTGC TAAAGAAGGCCTATGAAGCCTCCCTTTCAGA AATTAAGAAAGGCCATGAAATAGAAAAGAAAT CGCTTGAAGATTTACTTTCTGAGAAGCAGGA ATCGCTAGAGAAGCAAATCAATGATCTGAAG AGTGAAAATGATGCTTTAAATGAAAAATTGAA ATCAGAAGAACAAAAAAGAAGAGCAAGAGAA AAAGCAAATTTGAAAAATCCTCAGATCATGTA	248	VTASTTCEKLEKARNELQTVY EAFVQQHQAEKTERENRLKEF YTREYEKLRDTYIEEAEKYKM QLQEQFDNLNAAHETSKLEIE ASHSEKLELLKKAYEASLSEIK KGHEIEKKSLEDLLSEKQESLE KQINDLKSENDALNEKLKSEE QKRRAREKANLKNPQIMYLEQ ELESLKAVLEIKNEKLHQQDIK LMKMEKLVDNNTALVDKLKRF QQENEELKARMDKHMAISRQ LSTEQAVLQESLEKESKVNKR LSMENEELLWKLHNGDLCSPK RSPTSSAIPLQSPRNSGSFPS PSISPR*

				TCTAGAACAGGAGTTAGAAAGCCTGAAAGCT GTGTTAGAGATCAAGAATGAGAAACTGCATC AACAGGACATCAAGTTAATGAAAATGGAGAA ACTGGTGGACAACAACACAGCATTGGTTGAC AAATTGAAGCGTTTCCAGCAGGAGAATGAAG AATTGAAAGCTCGGATGGACAAGCACATGGC AATCTCAAGGCAGCTTTCCACGGAGCAGGCT GTTCTGCAAGAGTCGCTGGAGAAGGAGTCGA AAGTCAACAAGCGACTCTCTATGGAAAACGA GGAGCTTCTGTGGAAACTGCACAATGGGGAC CTGTGTAGCCCCAAGAGATCCCCCACATCCT CCGCCATCCCTTTGCAGTCACCAAGGAATTC GGGCTCCTTCCCTAGCCCCAGCATTTCACCC AGATGA		
Shigella ospD1	2	prey53735	48	CTCGCTTCCTCCTAGCACTGGGACATTTCAA GAAGCTCAGAGCCGGTTGAATGAAGCTGCTG CTGGGCTGAATCAGGCAGCCACAGAACTGGT GCAGGCCTCTCGGGGAACCCCTCAGGACCT GGCTCGAGCCTCAGGCCGATTTGGACAGGA CTTCAGCACCTTCCTGGAAGCTGGTGTGGAG ATGGCAGGCCAGGCTCCGAGCCAGGAGGAC CGAGCCCAAGTTGTGTCCAACTTGAAGGGCA TCTCCATGTCTTCAAGCAAACTTCTTCTGGCT GCCAAGGCCCTGTCCACGGACCCTGCTGCC CCTAACCTCAAGAGTCAGCTGGCTGCAGCTG CCAGGGCAGTAACTGACAGCATCAATCAGCT CATCACTATGTGCACCCAGCAGGCACCCGGC CAGAAGGAGTGTGATAACGCCCTGCGGGAAT TGGAGACGGTCCGGGAACTCCTGGAGAACC CAGTCCAGCCCATCAATGACATGTCCTACTTT GGTTGCCTGGACAGTGTAATGGAGAACTCAA AGGTGCTGGGCGAGGCCATGACTGGCATCT CCCAAAATGCCAAGAACGGAAACCTGCCAGA GTTTGGAGATGCCATTTCCACAGCCTCAAAG GCACTTTGTGGCTTCACCGAGGCAGCTGCAC	249	SLPPSTGTFQEAQSRLNEAAA GLNQAATELVQASRGTPQDLA RASGRFGQDFSTFLEAGVEM AGQAPSQEDRAQVVSNLKGIS MSSSKLLLAAKALSTDPAAPN LKSQLAAAARAVTDSINQLITM CTQQAPGQKECDNALRELET VRELLENPVQPINDMSYFGCL DSVMENSKVLGEAMTGISQNA KNGNLPEFGDAISTASKALCG FTEAAAQAAYLVGVSDPNSQA GQQGLVEPTQFARANQAIQM ACQSLGEPGCTQAQVLSAATI VAKHTSALCNSCRLASARTTN PTAKRQFVQSAKEVANSTANL VKTIKALDGAFTEENRAQCRA ATAPLLEAVDNLSAFASNPEF SSIPAQISPEGRAAMEPIVIS

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				AGGCTGCATATCTGGTTGGTGTCTCTGACCC CAATAGCCAAGCTGGACAGCAAGGGCTAGTG GAGCCCACACAGTTTGCCCGTGCAAACCAGG CAATTCAGATGGCCTGCCAGAGTTTGGGAGA GCCTGGCTGTACCCAGGCCCAGGTGCTCTCT GCAGCCACCATTGTGGCTAAACACACCTCTG CACTGTGTAACAGCTGTCGCCTGGCTTCTGC CCGTACCACCAATCCTACTGCCAAGCGCCAG TTTGTACAGTCAGCCAAGGAGGTGGCCAACA GCACAGCTAATCTTGTCAAGACCATCAAGGC GCTAGATGGGGCCTTCACAGAGGAGAACCG TGCCCAGTGCCGAGCAGCAACAGCCCCTCT GCTGGAGGCTGTGGACAATCTGAGTGCCTTT GCGTCCAACCCTGAGTTCTCCAGCATTCCTG CCCAGATCAGCCCTGAGGGTCGGGCTGCCA TGGAGCCCATTGTGATCTCTGC		
Shigella ospD1	2	prey67630	49	GAGGACCTGCAGCCACCCAGCGCCCTGTCG GCCCCCTTCACCAACAGCCTCGCTCGCTCTG CGCGCCAGTCTGTGCTCCGGTATAGCACTCT CCCTGGGCGCAGGGCCCTGAAGAACTCCCG CCTAGTGAGCCAGAAGGATGACGTCCACGTC TGTATCCTTTGTCTCAGAGCCATCATGAACTA TCAGTACGGATTCAACCTGGTCATGTCCCAC CCCCATGCTGTCAATGAGATTGCACTTAGCC TCAATAACAAGAATCCAAGGACCAAAGCCCT TGTCTTAGAGCTTCTGGCAN	250	EDLQPPSALSAPFTNSLARSA RQSVLRYSTLPGRRALKNSRL VSQKDDVHVCILCLRAIMNYQ YGFNLVMSHPHAVNEIALSLN NKNPRTKALVLELLA
Shigella ospD1	2	prey12665	50	GAAGCGGCACGAGCGAATGATCAAGAACCG GGAGTCAGCCTGCCAGTCCCGGAGAAAGAA GAAAGAGTATCTGCAGGGACTGGAGGCTCG GCTGCAAGCAGTACTGGCTGACAACCAGCAG CTCCGCCGAGAGAATGCTGCCCTCCGGCGG CGGCTGGAGGCCCTGCTGGCTGAAAACAGC GAGCTCAAGTTAGGGTCTGGAAACAGGAAGG TGGTCTGCATCATGGTCTTCCTTCTCTTCATT GCCTTCAACTTTGGACCTGTCAGCATCAGTG	251	KRHERMIKNRESACQSRRKK KEYLQGLEARLQAVLADNQQL RRENAALRRRLEALLAENSEL KLGSGNRKVVCIMVFLLFIAFN FGPVSISEPPSAPISPRMNKG EPQPRRHLLGFSEQEPVQGV EPLQGSSQGPKEPQPSPTDQ PSFSNLTAFPGGAKELLLRDL DQLFLSSDCRHFNRTESLRLA

20050420 4 1004 7

				AGCCTCCTTCAGCTCCCATCTCTCCTCGGAT GAACAAGGGGGAGCCTCAACCCCGGAGACA CTTGCTGGGGTTCTCAGAGCAAGAGCCAGTT CAGGGAGTTGAACCTCTCCAGGGGTCCTCCC AGGGCCCTAAGGAGCCCCAGCCCAGCCCCA CAGACCAGCCCAGTTTCAGCAACCTGACAGC CTTCCCTGGGGGCGCCAAGGAGCTACTACTA AGAGACCTAGACCAGCTCTTCCTCTCCTCTG ATTGCCGGCACTTCAACCGCACTGAGTCCCT GAGGCTTGCTGACGAGTTGAGTGGCTGGGT CCAGCGCCACCAGAGAGGCCGGAGGAAGAT CCCTCAGAGGGCCCAGGAGAGACAGAAGTC TCAGCCACGGAAGAAGTCACCTCCAGTTAAG GCAGTCCCCATCC		DELSGWVQRHQRGRRKIPQR AQERQKSQPRKKSPPVKAVPI
Shigella ospD1	2	prey67631	51	TGAGAGCGAGGTCTCGGAGCATCTCAGTGC CAGCTCGGCTTCTGCCATCCAGCAGGACAGC ACTTCCAGCATGCAGCCACCATCTGAAGCCC CCATGGTGAACACAGTCAGCTCAGCTTATTC GGAGGATTTTGAAAACTCTCCAAGTCTGACA GCATCTGAGCCAACCGCCCATTCCAAGGAGT CTCTTGACAGAACACTGGACGCTTTGTCTGA ATCCTCTTCAAGTGTGAAGACAGACCTTCCA CAAACAGCCGAGTCTAGGAAAAAGTCGGGCA GGCACGTGACAAGAGTGCTTGTGAAGGACAC AGCTGTGCAGACGCCAGATCCTGCCTTCACC TACGAGTGGACCAAGGTGGCCAGCATGGCA GCCATGGGGCCTGCCCTGGGAGGCGCCTAC GTGGACCCGACACCCATCGCCAATCATGTTA TCAGTGCAGATGCAATAGAAGCCCTGACCGC TTACAGCCCGGCCGTGCTGGCACTCCATGAT GTGCTGAAGCAGCAGCTGAGCCTGACGCAG CAGTTCATCCAGGCCAGCCGGCACCTGCAC GCCTCCCTCCTGCGCTCCCTGGACGCGGAC TCCTTCCACTACCACACCCTGGAGGAAGCCA AAGAGTACATTAGGTGCCACAGACCTGCCCC	252	ESEVSEHLSASSASAIQQDST SSMQPPSEAPMVNTVSSAYS EDFENSPSLTASEPTAHSKES LDRTLDALSESSSSVKTDLPQ TAESRKKSGRHVTRVLVKDTA VQTPDPAFTYEWTKVASMAA MGPALGGAYVDPTPIANHVIS ADAIEALTAYSPAVLALHDVLK QQLSLTQQFIQASRHLHASLL RSLDADSFHYHTLEEAKEYIR CHRPAPLTMEDALEEVNKEL*

				ACTGACCATGGAGGATGCCCTGGAGGAGGT GAACAAGGAGCTGTGA		
Shigella ospD1	2	prey20143	52	ATGGCAGAGAGCCGCCAGGACCTGGAGGAG GAGTATGAGCCTCAGTTCCTGCGGCTCCTAG AGAGGAAAGAAGCTGGGACCAAAGCTCTGCA GAGAACCCAGGCTGAGATCCAGGAAATGAAG GAGGCTCTGAGACCCCTGCAAGCAGAGGCC CGGCAGCTCCGCCTGCAAAACAGGAACCTG GAGGACCAGATCGCACTTGTGAGGCAAAAAC GAGATGAAGAGGTGCAGCAGTACAGGGAAC AGCTGGAGGAAATGGAAGAACGCCAGAGGC AGTTAAGAAATGGGGTGCAACTCCAGCAACA GAAGAACAAAGAGATGGAACAGCTAAGGCTC AGTCTTGCTGAAGAGCTCTCTACTTATAAGGC TATGCTACTACCCAAGAGCCTGGAACAGGCT GATGCTCCCACTTCTCAGGCAGGTGGAATGG AGACACAGTCTCAAGGGGCTGTTTAG	253	MAESRQDLEEEYEPQFLRLLE RKEAGTKALQRTQAEIQEMKE ALRPLQAEARQLRLQNRNLED QIALVRQKRDEEVQQYREQLE EMEERQRQLRNGVQLQQQK NKEMEQLRLSLAEELSTYKAM LLPKSLEQADAPTSQAGGMET QSQGAV*
Shigella ospD1	2	prey1418	53	CTGGGTCATCCCAGATCCCGAAGAGGAACCA GAGCGCAAGCGAAAGAAGGGCCCAGCCCCG AAGATGCTGGGCCACGAGCTTTGCCGTGTCT GTGGGGACAAGGCCTCCGGCTTCCACTACAA CGTGCTCAGCTGCGAAGGCTGCAAGGGCTT CTTCCGGCGCAGTGTGGTCCGTGGTGGGGC CAGGCGCTATGCCTGCCGGGGTGGCGGAAC CTGCCAGATGGACGCTTTCATGCGGCGCAAG TGCCAGCAGTGCCGGCTGCGCAAGTGCAAG GAGGCAGGGATGAGGGAGCAGTGCGTCCTT TCTGAAGAACAGATCCGGAAGAAGAAGATTC GGAAACAGCAGCAGCAGGAGTCACAGTCAC AGTCGCAGTCACCTGTGGGGCCGCAGGGCA GCAGCAGCTCAGCCTCTGGGCCTGGGGCTT CCCCTGGTGGATCTGAGGCAGGCAGCCAGG GCTCCGGGGAAGGCGAGGGTGTCCAGCTAA CAGCGGCTCAAGAACTAATGATCCAGCAGTT GGTGGCGGCCCAACTGCAGTGCAACAAACG	254	WVIPDPEEEPERKRKKGPAPK MLGHELCRVCGDKASGFHYN VLSCEGCKGFFRRSVVRGGA RRYACRGGGTCQMDAFMRR KCQQCRLRKCKEAGMREQCV LSEEQIRKKKIRKQQQQESQS QSQSPVGPQGSSSSASGPGA SPGGSEAGSQGSGEGEGVQL TAAQELMIQQLVAAQLQCNKR SFSDQPKVTPWPLGADPQSR DARQQRFAHFTELAIISVQEIV DFAKQVPGFLQLGREDQIALL KASTIEIMLLETARRYNHE

				CTCCTTCTCCGACCAGCCCAAAGTCACGCCC TGGCCCCTGGGCGCAGACCCCCAGTCCCGA GATGCCCGCCAGCAACGCTTTGCCCACTTCA CGGAGCTGGCCATCATCTCAGTCCAGGAGAT CGTGGACTTCGCTAAGCAAGTGCCTGGTTTC CTGCAGCTGGGCCGGGAGGACCAGATCGCC CTCCTGAAGGCATCCACTATCGAGATCATGC TGCTAGAGACAGCCAGGCGCTACAACCACGA GA		
Shigella ospD1	2	prey67642	54	ATGAAGGATGAACCACGGTCCACGAACCTGT TCATGAAGCTGGACTCGGTCTTCATCTGGAA GGAACCCTTTGGCCTGGTCCTCATCATCGCA CCCTGGAACTACCCATTGAACCTGACCCTGG TGCTCCTGGTGGGCACCCTCCCCGCAGGGA ATTGCGTGGTGCTGAAGCCGTCAGAAATCAG CCAGGGCACAGAGAAGGTCCTGGCTGAGGT GCTGCCCCAGTACCTGGACCAGAGCTGCTTT GCCGTGGTGCTGGGCGGACCCCAGGAGACA GGGCAGCTGCTAGAGCACAAGTTGGACTACA TCTTCTTCACAGGGAGCCCTCGTGTGGGCAA GATTGTCATGACTGCTGCCACCAAGCACCTG ACGCCTGTCACCCTGGAGCTGGG	255	MKDEPRSTNLFMKLDSVFIWK EPFGLVLIIAPWNYPLNLTLVLL VGTLPAGNCVVLKPSEISQGT EKVLAEVLPQYLDQSCFAVVL GGPQETGQLLEHKLDYIFFTG SPRVGKIVMTAATKHLTPVTLE L
Shigella ospD1	2	prey67648	55	GCTGGGGATCGCGCTGGCGCTCCTGGGCGA GAGGCTTCTGGCACTCAGAAATCGACTTAAA GCCTCCAGAGAAGTAGAATCTGTAGACCTTC CACACTGCCACCTGATTAAAGGAATTGAAGC TGGCTCTGAAGATATTGACATACTTCCCAATG GTCTGGCTTTTTTTAGTGTGGGTCTAAAATTC CCAGGACTCCACAGCTTTGCACCAGATAAGC CTGGAGGAATACTAATGATGGATCTAAAAGA AGAAAAACCAAGGGCACGGGAATTAAGAATC AGTCGTGGGTTTGATTTGGCCTCATTCAATCC ACATGGCATCAGCACTTTCATAGACAACGAT GAC	256	LGIALALLGERLLALRNRLKAS REVESVDLPHCHLIKGIEAGSE DIDILPNGLAFFSVGLKFPGLH SFAPDKPGGILMMDLKEEKPR ARELRISRGFDLASFNPHGIST FIDNDD
Shigella	3	prey67266	56	NNNNNNNNNNNNNNNNNNNNNNNNNNNN	257	XXXXXXXXXXXXXXXXXXXX

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ospC1				NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNGGTTCTTAATCTTTGCTCTC CTGACCCTTTTACTCTCATAAAAATTATTNGA GGACTCCAAATATAATAGCTTTTATTTATGTAT GTNATAACTTTGGATACTATATTAGAATTAAAA CTGAGAAANTTAAAGGGCTTAATTAAAAAATA ACTCTGTACATGTTAAAN		XXXXXXXXXXXXXXXXXXXX XXVLNLCSPDPFTLIKIIXGLQI* *LLFMYVITLDTILELKLRXLKGL IKK*LCTC*
Shigella ospC1	3	prey67267	57	TACTATTTACTGGATGTCTCAGTAGGCATAGT TTAGAGATACGTTGTGTGCAATAGACATATAA ATGATTTGTTTACATTACTCCATATAAATGATT TGTTTGTTTAATGTCTTGGAAATTATTTTATGT CTTATGGTTGCTGATTCTGTTGCCATCNGATT ACTACGATAAANAAGATCTGNGNCTANNGAN GGGNCTTNTTTGAACTGNTNCTNNGGCNTNG GNTNGGGNGCNTNTGTNTNGNCNNNGTTGTT GNGNNNANGGCGNGNNCGGNGNCNGTTGAT TNNCAGGTNTGGNNNNGNTGGNGGCNCNTG GCNCCTNGCATNTN	258	YYLLDVSVGIV*RYVVCNRHIN DLFTLLHINDLFV*CLGNYFMS YGC*FCCHXITTIXKIXXXXXXX FELXLXXXXGXXCXXXVVXXX AXXXXVDXQVWXXWXXXAPX X
Shigella ospC1	3	prey50590	58	GTTTGATCAGCCTCAGGAATACTTCATGGAG TTGACATTCAATCAAGCTGCAAAGGGGGTCA ACAAGGAGTTCACCGTGAACATCATGGACAC GTGTGAGCGCTGCAACGGCAAGGGGAACGA GCCCGGCACCAAGGTGCAGCATTGCCACTA CTGTGGCGGCTCCGGCATGGAAACCATCAAC ACAGGCCCTTTTGTGATGCGTTCCACGTGTA GGAGATGTGGTGGCCGCGGCTCCATCATCAT ATCGCCCTGTGTGGTCTGCAGGGGAGCAGG ACAAGCCAAGCAGAAAAAGCGAGTGATGATC CCTGTGCCTGCAGGAGTCGAGGATGGCCAG ACCGTGAGGATGCCTGTGGGAAAAAGGGAA ATTTTCATTACGTTCAGGGTGCAGAAAAGCC CTGTGTTCCGGAGGGACGGCGCAGACATCC ACTCCGACCTCTTTATTTCTATAGCTCAGGCT	259	FDQPQEYFMELTFNQAAKGV NKEFTVNIMDTCERCNGKGNE PGTKVQHCHYCGGSGMETIN TGPFVMRSTCRRCGGRGSIIIS PCVVCRGAGQAKQKKRVMIP VPAGVEDGQTVRMPVGKREIF ITFRVQKSPVFRRDGADIHSDL FISIAQALLGGTARAQGLYETI NVTIPPGTQTDQKIRMGGKGI PRINSYGYGDHYIHIKIRVPKRL TSRQQSLILSYAEDETDVEGT VNGVTLTSSGGSTMDSSAGS KARREAGEDEEGFLSKLKKMF TS*

				CTTCTTGGGGGAACAGCCAGAGCCCAGGGC CTGTACGAGACGATCAACGTGACGATCCCCC CTGGGACTCAGACAGACCAGAAGATTCGGAT GGGTGGGAAAGGCATCCCCCGGATTAACAG CTACGGCTACGGAGACCACTACATCCACATC AAGATACGAGTTCCAAAGAGGCTAACGAGCC GGCAGCAGAGCCTGATCCTGAGCTACGCCG AGGACGAGACAGATGTGGAGGGGACGGTGA ACGGCGTCACCCTCACCAGCTCTGGTGGCA GCACCATGGATAGCTCCGCAGGAAGCAAGG CTAGGCGTGAGGCTGGGGAGGACGAGGAGG GATTCCTTTCCAAACTTAAGAAAATGTTTACC TCATGA		
Shigella ospC1	3	prey9822	59	ATGGCGGACCTTGATTCGCCTCCGAAGCTGT CAGGGGTGCAGCAGCCGTCTGAGGGGGTGG GAGGTGGCCGCTGCTCCGAAATCTCCGCTG AGCTCATTCGCTCCCTGACAGAGCTGCAGGA GCTGGAGGCTGTATACGAACGGCTCTGCGG CGAGGAGAAAGTGGTGGAGAGAGAGCTGGA TGCTCTTTTGGAACAGCAAAACACCATTGAAA GTAAGATGGTCACTCTCCACCGAATGGGTCC TAATCTGCAGCTGATTGAGGGAGATGCAAAG CAGCTGGCTGGAATGATCACCTTTACCTGCA ACCTGGCTGAGAATGTGTCCAGCAAAGTTCG TCAGCTTGACCTGGCCAAGAACCGCCTCTAT CAGGCCATTCAGAGAGCTGATGACATCTTGG ACCTGAAGTTCTGCATGGATGGAGTTCAGAC TGCTTTGAGGAGTGAAGATTATGAGCAGGCT GCAGCACATATTCATCGCTACTTGTGCCTGG ACAAGTCGGTCATTGAGCTCAGCCGACAGGG CAAAGGGGGGAGCATGATTGATGCCAACCTG AAATTGCTGCAGGAAGCTGAGCAACGTCTCA AAGCCATTGTGGCAGAGAAGTTTGCCATTGC CACCAAGGAAGGTGATTTGCCCCAGGTGGA GCGCTTCTTCAAGATCTTCCCACTGCTGGGT	260	MADLDSPPKLSGVQQPSEGV GGGRCSEISAELIRSLTELQEL EAVYERLCGEEKVVERELDAL LEQQNTIESKMVTLHRMGPNL QLIEGDAKQLAGMITFTCNLAE NVSSKVRQLDLAKNRLYQAIQ RADDILDLKFCMDGVQTALRS EDYEQAAAHIHRYLCLDKSVIE LSRQGKGGSMIDANLKLLQEA EQRLKAIVAEKFAIATKEGDLP QVERFFKIFPLLGLHEEGLRRF SEYLCKQVASKAEENLLMVLG TDMSDRRAAVIFADTLTLLFEG IARIVEAHQPIVETYYGPGRLY TLIKYLQVECDRQVEKVVDKFI KQRDYHQQFRHVQNNLMRNS TTEKIEPRELDPILTEVTLMNA RSELYLRFLKKRISSDFEVGDS MASEEVKQEHQKCLDKLLNN CLLSCTMQELIGLYVTMEEYF MRETVNKAVALDTYEKGQLTS SMVDDVFYIVKKCIGRALSSSS

				TTGCATGAGGAGGGATTAAGAAGGTTCTCGG		IDCLCAMINLATTELESDFRDV
				AGTACCTTTGCAAGCAGGTGGCCAGTAAAGC		LCNKLRMGFPATTFQDIQRGV
				TGAGGAGAATCTGCTCATGGTGCTGGGGACA		TSAVNIMHSSLQQGKFDTKGI
				GACATGAGTGATCGGAGAGCTGCAGTCATCT		ESTDEAKMSFLVTLNNVEVCS
				TTGCAGATACACTTACTCTTCTGTTTGAAGGG		ENISTLKKTLESDCTKLFSQGI
				ATTGCCCGCATTGTGGAGGCCCACCAGCCAA		GGEQAQAKFDGCLSDLAAVS
				TAGTGGAGACCTATTATGGGCCAGGGAGACT		NKFRDLLQEGLTELNSTAIKPQ
				CTATACCCTGATCAAATATCTGCAGGTGGAAT		VQPWINSFFSVSHNIEEEEFN
				GTGACAGACAGGTGGAGAAGGTGGTAGACA		DYEANDPWVQQFILNLEQQM
				AGTTCATCAAGCAAAGGGACTACCACCAGCA		AEFKASLSPVIYDSLTGLMTSL
				GTTCCGGCATGTTCAGAACAACCTGATGAGA		VAVELEKVVLKSTFNRLGGLQ
				AATTCTACAACAGAAAAAATCGAACCAAGAGA		FDKELRSLIAYLTTVTTWTIRD
				ACTGGACCCCATCCTGACTGAGGTCACCCTG		KFARLSQMATILNLERVTEILD
				ATGAACGCCCGCAGTGAGCTATACTTACGCT		YWGPNSGPLTWRLTPAEVRQ
				TCCTCAAGAAGAGGATTAGCTCTGATTTTGAG		VLALRIDFRSEDIKRLRL*
				GTGGGAGACTCCATGGCCTCAGAGGAAGTAA		
				AGCAAGAGCACCAGAAGTGTCTGGACAAACT		
				CCTCAATAACTGCCTTTTGAGCTGTACCATGC		
				AGGAGCTAATTGGCTTATATGTTACCATGGA		
				GGAGTACTTCATGAGGGAGACTGTCAATAAG		
				GCTGTGGCTCTGGACACCTATGAGAAGGGC		
				CAGCTGACATCCAGCATGGTGGATGATGTCT		
				TCTACATTGTTAAGAAGTGCATTGGGCGGGC		
				TCTGTCCAGCTCCAGCATTGACTGTCTCTGT		
				GCCATGATCAACCTCGCCACCACAGAGCTGG		
				AGTCTGACTTCAGGGATGTTCTGTGTAATAAG		
				CTGCGGATGGGCTTTCCTGCCACCACCTTCC		
				AGGACATCCAGCGCGGGGTGACAAGTGCCG		
				TGAACATCATGCACAGCAGCCTCCAGCAAGG		
				CAAATTTGACACAAAAGGCATCGAGAGTACT		
				GACGAGGCGAAGATGTCCTTCCTGGTGACTC		
				TGAACAACGTGGAAGTCTGCAGTGAAAACAT		
				CTCCACTCTGAAGAAGACACTGGAGAGTGAC		
				TGCACCAAGCTCTTCAGCCAGGGCATTGGAG		
				GGGAGCAGGCCCAGGCCAAGTTTGACGGCT		
				GCCTTTCTGACTTGGCCGCCGTGTCCAACAA		

				ATTCCGAGACCTCTTGCAGGAAGGGCTGACG GAGCTCAACAGCACAGCCATCAAGCCACAGG TGCAGCCTTGGATCAACAGCTTTTTCTCCGTC TCCCACAACATCGAGGAGGAAGAATTCAATG ACTATGAGGCCAACGACCCTTGGGTACAACA GTTCATCCTTAACCTGGAGCAGCAAATGGCA GAGTTCAAGGCCAGCCTGTCCCCGGTCATCT ACGACAGCCTAACCGGCCTCATGACTAGCCT TGTTGCCGTCGAGTTGGAGAAAGTGGTGCTG AAATCCACCTTTAACCGGCTGGGTGGTCTGC AGTTTGACAAGGAGCTGAGGTCGCTCATTGC CTACCTTACCACGGTGACCACCTGGACCATC CGAGACAAGTTTGCCCGGCTCTCCCAGATGG CCACCATCCTCAATCTGGAGCGGGTGACCGA GATCCTCGATTACTGGGGACCCAATTCCGGC CCATTGACGTGGCGCCTCACCCCTGCTGAAG TGCGCCAGGTGCTGGCCCTGCGGATAGACT TCCGCAGTGAAGATATCAAGAGGCTGCGCCT GTAG		
Shigella ospC1	3	prey67268	60	CCGTGTCTTGGCTGGCTCATTTATCAGGGTT GTCTTTCTCTTTGTCTTTGACTAGGCTATTTTA CTACTCTATAGAGATAGAAATTTGTTTACAGT GCACTAATACTGATGTAAATAATTCCTGTTCA TAAAACTGCAAATTATATCATTGAATGCAATT GATTATGGCCCTGTAGACATTCAAGAGTTTTG CCAGTTTGCACCCATTTGTAAATGTGTTTTAG CATCTCTTATCTGACTATAAATGTGCTGCTTT TGATTTATCTTACAAACCATTTGTCACN	261	PCLGWLIYQGCLSLCL*LGYFT TL*R*KFVYSALILM*IIPVHKTA NYIIECN*LWPCRHSRVLPVCT HL*MCFSISYLTINVLLLIYLTNH LS
Shigella ospC1	3	prey67270	61	NCNGGTGNGTGNAGANGGAGTNNANCTNTG CCACTGCATGNTGTTTTGCTCAGGCANGATN NATGATGCTTGACTTTTATGAAGTTCCANNAT TCAAATGGATNTGATGCNTAACCTTCCCCATG TANTNGTTGTACATGTTCATGNGGGCTGGNN TNNCTNNTNNTTCTATNGNTCATTAGATNNNN NNNCACTCTTGNACTCTCNCTNTANTTACCCT	262	XGXXRXSXXXPLHXVLLRXDX *CLTFMKFXXSNGXDA*PSPC XXCTCSXGLXXLXXLXXIRXXX TLXLSLXLPSCH*XICXSHX*SX XXXPXIS

				CATGCCATTGANNAATCTGTCNTTCTCATTNA TGATCCCNTANNNNCTGNCCANNGATCTCTC		
Shigella ospC1	3	prey67271	62	GCAGGAGCTGCAGAAGAAGGCAGAGCACCA GGTGGGGGAAGATGGGTTTTTACTGAAGATC AAGCTGGGGCACTATGCCACACAGCTCCAGA ACACGTATGACCGCTGCCCCATGGAGCTGGT CCGCTGCATCCGCCATATATTGTACAATGAA CAGAGGTTGGTCCGAGAAGCCAACAATGGTA GCTCTCCAGCTGGAAGCCTTGCTGATGCCAT GTCCCAGAAACACCTCCAGATCAACCAGACG TTTGAGGAGCTGCGACTGGTCACGCAGGACA CAGAGAATGAGTTAAAAAAGCTGCAGCAGAC TCAGGAGTACTTCATCATCCAGTACCAGGAG AGCCTGAGGATCCAAGCTCAGTTTGGCCCGC TGGCCCAGCTGAGCCCCCAGGAGCGTCTGA GCCGGGAGACGGCCCTCCAGCAGAAGCAGG TGTCTCTGGAGGCCTGGTTGCAGCGTGAGG CACAGACACTGCAGCAGTACCGCGTGGAGC TGCCCGAGAAGCACCAGAAGACCCTGCAGC TGCTGCGGAAGCAGCAGACCATCATCCTGGA TGACGAGCTGATCCAGTGGAAGCGGCGGCA GCAGCTGGCCGGGAACGGCGGGCCCCCCG AGGGCAGCCTGGACGTGCTACAGTCCTGGT GTGAGAAGTTGGCGGAGATCATCTGGCAGAA CCGGCAGCAGATCCGCAGGGCTGAGCACCT CTGCCAGCAGCTGCCCATCCCCGGCCCAGT GGAGGAGATGCTGGCCGAGGTCAACGCCAC CATCACGGACATTATCTCAGCCCTGGTGACC AGCACGTTCATCATTGAGAAGCAGCCTCCTC AGGTCCTGAAGACCCAGACCAAGTTTGCAGC CACTGTGCGCCTGCTGGTGGGCGGGAAGCT GAACGTGCACATGAACCCCCCCCAGGTGAA GGCCACCATCATCAGTGAGCAGCAGGCCAA GTCTCTGCTCAAGAACGAGAACACCCGCAAT GATTACAGTGGCGAGATCTTGAACAACTGCT	263	QELQKKAEHQVGEDGFLLKIK LGHYATQLQNTYDRCPMELV RCIRHILYNEQRLVREANNGS SPAGSLADAMSQKHLQINQTF EELRLVTQDTENELKKLQQTQ EYFIIQYQESLRIQAQFGPLAQ LSPQERLSRETALQQKQVSLE AWLQREAQTLQQYRVELPEK HQKTLQLLRKQQTIILDDELIQ WKRRQQLAGNGGPPEGSLDV LQSWCEKLAEIIWQNRQQIRR AEHLCQQLPIPGPVEEMLAEV NATITDIISALVTSTFIIEKQPPQ VLKTQTKFAATVRLLVGGKLN VHMNPPQVKATIISEQQAKSLL KNENTRNDYSGEILNNCCVME YHQATGTLSAHFRNMSLKRIK RSDRRGAESVTEEKFTILFES QFSVGGNELVFQVKTLSLPVV VIVHGSQDNNATATVLWDNAF AEPGRVPFAVPDKVLWPQLC EALNMKFKAEVQSNRGLTKEN LVFLAQKLFNNSSSHLEDYSG LSVSWSQFNRENLPGRNYTF WQWFDGVMEVLKKHLKPHW NDGAILGFVNKQQAHDLLINKP DGTFLLRFSDSEIGGITIAWKF DSQERMFWNLMPFTTRDFSIR SLADRLGDLNYLIYVFPDRPKD EVYSKYYTPVPCESATAKAVD GYVKPQIKQVVPEFVNASADA GGGSATYMDQAPSPAVCPQA HYNMYPQNPDSVLDTDGDFD

10043149.1 = 014500

				GCGTCATGGAGTACCACCAAGCCACAGGCA CCCTTAGTGCCCACTTCAGGAATATGTCCCT GAAACGAATTAAGAGGTCAGACCGTCGTGGG GCAGAGTCGGTGACAGAAGAAAAATTTACAA TCCTGTTTGAATCCCAGTTCAGTGTTGGTGG AAATGAGCTGGTTTTTCAAGTCAAGACCCTGT CCCTGCCAGTGGTGGTGATCGTTCATGGCAG CCAGGACAACAATGCGACGGCCACTGTTCTC TGGGACAATGCTTTTGCAGAGCCTGGCAGGG TGCCATTTGCCGTGCCTGACAAAGTGCTGTG GCCACAGCTGTGTGAGGCGCTCAACATGAAA TTCAAGGCCGAAGTGCAGAGCAACCGGGGC CTGACCAAGGAGAACCTCGTGTTCCTGGCGC AGAAACTGTTCAACAACAGCAGCAGCCACCT GGAGGACTACAGTGGCCTGTCTGTGTCCTGG TCCCAGTTCAACAGGGAGAATTTACCAGGAC GGAATTACACTTTCTGGCAATGGTTTGACGG TGTGATGGAAGTGTTAAAAAAACATCTCAAGC CTCATTGGAATGATGGGGCCATTTTGGGGTT TGTAAACAAGCAACAGGCCCATGACCTACTG ATTAACAAGCCAGATGGGACCTTCCTCCTGA GATTCAGTGACTCAGAAATTGGCGGCATCAC CATTGCTTGGAAGTTTGATTCTCAGGAAAGAA TGTTTTGGAATCTGATGCCTTTTACCACCAGA GACTTCTCCATCAGGTCCCTAGCCGACCGCT TGGGAGACTTGAATTACCTTATCTACGTGTTT CCTGATCGGCCAAAAGATGAAGTATACTCCA AATACTACACACCAGTTCCCTGCGAGTCTGC TACTGCTAAAGCTGTTGATGGATACGTGAAG CCACAGATCAAGCAAGTGGTCCCTGAGTTTG TGAACGCATCTGCAGATGCCGGGGGCGGCA GCGCCACGTACATGGACCAGGCCCCCTCCC CAGCTGTGTGTCCCCAGGCTCACTATAACAT GTACCCACAGAACCCTGACTCAGTCCTTGAC ACCGATGGGGACTTCGATCTGGAGGACACAA TGGACGTAGCGCGGCGTGTGGAGGAGCTCC		LEDTMDVARRVEELLGRPMD SQWIPHAQS*

				TGGGCCGGCCAATGGACAGTCAGTGGATCC CGCACGCACAATCGTGA		
Shigella ospC1	3	prey700	63	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGA ACATGAATAGACTACCAGGTTGGGATAAGCA TTCATATGGTTACCATGGGGATGATGGACATT CGTTTTGTTCTTCTGGAACTGGACAACCTTAT GGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGC TTTTACACCAAGAATGGACATAGTTTAGGTAT TGCTTTCACTGACCTACCGCCAAATTTGTATC CTACTGTGGGGCTTCAAACACCAGGAGAAGT GGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGT GGAGAACCAAAATCCAGGCACAGATAGATCG ATTTCCTATCGGAGATCGAGAAGGAGAATGG CAGACCATGATACAAAAAATGGTTTCATCTTA TTTAGTCCACCATGGGTACTGTGCCACAGCA GAGGCCTTTGCCAGATCTACAGACCAGACCG TTCTAGAAGAATTAGCTTCCATTAAGAATAGA CAAAGAATTCAGAAATTGGTATTAGCAGGAA GAATGGGAGAAGCCATTGAAACAACACAACA GTTATACCCAAGTTTACTTGAAAGAAATCCTA ATCTCCTTTTCACATTAAAAGTGCGTCAGTTT ATAGAAATGGTGAATGGTACAGATAGTGAAG TACGATGTTTGGGAGGCCGAAGTCCAAAGTC TCAAGACAGTTATCCTGTTAGTCCTCGACCTT TTAGTAGTCCAAGTATGAGCCCCAGCCATGG AATGAATATCCACAATTTAGCATCAGGCAAAG GAAGCACCGCACATTTTTCAGGTTTTGAAAGT TGTAGTAATGGTGTAATATCAAATAAAGCACA TCAATCATATTGCCATAGTAATAAACACCAGT CATCCAACTTGAATGTACCAGAACTAAACAGT ATAAATATGTCAAGATCACAGCAAGTTAATAA CTTCACCAGTAATGATGTAGACATGGAAACA GATCACTACTCCAATGGAGTTGGAGAAACTT	264	MGIGLSAQGVNMNRLPGWDK HSYGYHGDDGHSFCSSGTGQ PYGPTFTTGDVIGCCVNLINNT CFYTKNGHSLGIAFTDLPPNLY PTVGLQTPGEVVDANFGQHP FVFDIEDYMREWRTKIQAQID RFPIGDREGEWQTMIQKMVS SYLVHHGYCATAEAFARSTDQ TVLEELASIKNRQRIQKLVLAG RMGEAIETTQQLYPSLLERNP NLLFTLKVRQFIEMVNGTDSE VRCLGGRSPKSQDSYPVSPR PFSSPSMSPSHGMNIHNLASG KGSTAHFSGFESCSNGVISNK AHQSYCHSNKHQSSNLNVPE LNSINMSRSQQVNNFTSNDVD METDHYSNGVGETSSNGFLN GSSKHDHEMEDCDTEMEVDS SQLRRQLCGGSQAAIERMIHF GRELQAMSEQLRRDCGKNTA NKKMLKDAFSLLAYSDPWNSP VGNQLDPIQREPVCSALNSAIL ETHNLPKQPPLALAMGQATQ CLGLMARSGIGSCAFATVEDY LH*

				CATCCAATGGTTTCCTAAATGGTAGCTCTAAA CATGACCACGAAATGGAAGATTGTGACACCG AAATGGAAGTTGATTCAAGTCAGTTGAGACG CCAGTTGTGTGGAGGAAGTCAGGCCGCCATA GAAAGAATGATCCACTTTGGACGAGAGCTGC AAGCAATGAGTGAACAGCTAAGGAGAGACTG TGGCAAGAACACTGCAAACAAAAAAATGTTG AAGGATGCATTCAGTCTACTAGCATATTCAGA TCCCTGGAACAGCCCAGTTGGAAATCAGCTT GACCCGATTCAGAGAGAACCTGTGTGCTCAG CTCTTAACAGTGCAATATTAGAAACCCACAAT CTGCCAAAGCAACCTCCACTTGCCCTAGCAA TGGGACAGGCCACACAATGTCTAGGACTGAT GGCTCGATCAGGAATTGGATCCTGCGCATTT GCCACAGTGGAAGACTACCTACATTAG		
Shigella ospC1	3	prey3486	64	GATCGAGATCCATGGGAAGGCAGGCCTGTTT TTAGAAGGCCAGATCCACCCCGAGTTGGAAG GAGTCGAGATTGTCATCAGTGAAAAGGGGGC AAGTTCACCGCTGATCACAGTCTTTACTGATG ACAAAGGTGCCTACAGTGTTGGCCCCCTGCA CAGTGACCTGGAGTACACGGTGACCTCACAG AAGGAGGGCTATGTTCTGACTGCGGTGGAAG GAACCATCGGAGACTTCAAGGCCTATGCCCT GGCAGGCGTAAGCTTTGAGATAAAAGCTGAG GATGACCAGCCCCTCCCGGGAGTCCTCTTAT CCCTGAGCGGTGGCCTGTTTCGTTCCAACCT CTTGACCCAGGACAACGGCATTCTGACATTC TCAAACCTGAGCCCTGGCCAGTATTACTTCA AACCCATGATGAAGGAGTTCCGGTTTGAGCC ATCCTCACAGATGATCGAGGTGCAGGAAGGC CAGAACCTGAAGATCACCATCACGGGGTACC GAACCGCTTACAGTTGCTATGGCACAGTGTC TTCCTTAAACGGAGAGCCCGAACAAGGGGTT GCCATGGAAGCGGTGGGCCAGAACGACTGC AGCATTTACGGAGAAGACACCGTGACAGACG	265	IEIHGKAGLFLEGQIHPELEGV EIVISEKGASSPLITVFTDDKGA YSVGPLHSDLEYTVTSQKEGY VLTAVEGTIGDFKAYALAGVSF EIKAEDDQPLPGVLLSLSGGLF RSNLLTQDNGILTFSNLSPGQ YYFKPMMKEFRFEPSSQMIEV QEGQNLKITITGYRTAYSCYGT VSSLNGEPEQGVAMEAVGQN DCSIYGEDTVTDEEGKFRLRG LLPGCVYHVQLKAEGNDHIER ALPHHRVIEVGNNDIDDVNIIVF RQINQFDLSGNVITSSEYLPTL WVKLYKSENLDNPIQTVSLGQ SLFFHFPPLLRDGENYVVLLD STLPRSQYDYILPQVSFTAVG YHKHTTLIFNPTRKLPEQDIAQ GSYIALPLTLLVLLAGYNHDKLI PLLLQLTSRLQGVRALGQAAS DNSGPEDAKRQAKKQKTRRT*

				AAGAGGGCAAGTTCAGATTACGTGGATTGCT GCCGGGATGTGTGTACCACGTTCAGCTCAAG GCAGAAGGCAACGACCACATTGAGCGGGCG CTCCCCCACCATAGGGTGATTGAGGTTGGGA ATAATGACATCGATGATGTAAACATCATAGTT TTCCGGCAGATTAATCAATTTGATTTAAGTGG AAATGTGATCACTTCCTCTGAATACCTTCCTA CATTATGGGTCAAGCTTTACAAAAGCGAAAAC CTCGACAATCCAATCCAGACAGTTTCCCTTG GCCAGTCCCTGTTCTTCCATTTCCCCCCACT GCTCAGAGACGGCGAGAACTATGTTGTGCTT CTGGACTCCACACTCCCCAGATCCCAGTATG ACTACATCTTGCCTCAAGTTTCTTTCACCGCA GTGGGCTACCATAAACACACCACCTTGATTTT TAATCCCACGAGGAAGCTGCCTGAACAGGAC ATCGCACAAGGATCCTACATTGCCCTGCCAT TGACGCTGCTGGTTCTGCTGGCCGGTTACAA CCATGACAAGCTCATTCCTTTGCTGCTGCAG TTGACAAGCCGGCTACAGGGAGTCCGCGCG CTCGGCCAGGCAGCCTCTGACAATAGCGGC CCAGAAGATGCAAAGAGACAAGCCAAGAAAC AGAAGACAAGGCGGACTTGA		
Shigella ospC1	3	prey14801	65	CCTGGGCCTACATTCTCCCATTGCCCTAGAT GTACTGAGTGAGGCTTTTGAGGAATCCTTGG TGGCCAGAGATTGGTCCCGGGCCCTTCAGCT CACTGAAGTGTACGGGCGAGATGTGGACGAT TTGAGCAGCATAAAGGATGCAGTCCTGAGCT GTGCTGTGGCATATGACAAAGAAGGTTGGCA ATACCTGTTTCCCGTGAAGGATGCATCTCTG AGAAGTCGGCTGGCCCTACAGTTTGTGGACA GGTGGCCCCTGGAGTCATGCCTGGAGATTCT GGCCTACTGCATTTCAGACACGGCTGTCCAA GAAGGACTAAAGTGTGAGCTACAGAGGAAGC TGGCGGAGCTGCAGGTGTATCAGAAGATTCT GGGTTTGCAGTCTCCCCCAGTGTGGTGTGAC	266	LGLHSPIALDVLSEAFEESLVA RDWSRALQLTEVYGRDVDDL SSIKDAVLSCAVAYDKEGWQY LFPVKDASLRSRLALQFVDRW PLESCLEILAYCISDTAVQEGL KCELQRKLAELQVYQKILGLQ SPPVWCDWQTLRSCCVEDPS TVMNMILEAQEYELCEEWGCL YPIPREHLISLHQKHLLHLLER RDHDKALQLLRRIPDPTMCLE VTEQSLDQHTSLATSHFLANY LTTHFYGQLTAVRHREIQALYV GSKILLTLPEQHRASYSHLSSN

				TGGCAGACCTTGAGGAGCTGTTGTGTTGAGG		PLFMLEQLLMNMKVDWATVA
				ACCCATCAACTGTCATGAACATGATTCTAGAA		VQTLQQLLVGQEIGFTMDEVD
				GCACAGGAGTATGAACTGTGTGAAGAGTGGG		SLLSRYAEKALDFPYPQREKR
				GCTGCCTGTACCCCATTCCAAGAGAACATTT		SDSVIHLQEIVHQAADPETLPR
				AATCAGCCTTCATCAAAAGCATCTTCTCCACC		SPSAEFSPAAPPGISSIHSPSL
				TTCTAGAAAGAAGAGATCATGACAAGGCTCT		RERSFPPTQPSQEFVPPATPP
				GCAACTCCTGCGAAGAATCCCTGACCCCACC		ARHQWVPDETESICMVCCRE
				ATGTGCCTTGAAGTGACAGAGCAATCCCTCG		HFTMFNRRHHCRRCGRLVCS
				ACCAGCACACTAGCTTGGCCACTTCTCACTT		SCSTKKMVVEGCRENPARVC
				CTTGGCCAACTACCTCACCACCCACTTCTAT		DQCYSYCNKDVPEEPSEKPE
				GGACAACTGACTGCTGTCCGACACCGTGAAA		ALDSSKSESPPYSFVVRVPKA
				TCCAGGCGCTGTATGTGGGATCCAAGATTCT		DEVEWILDLKEEENELVRSEF
				GCTGACCCTGCCTGAGCAGCACCGGGCCAG		YYEQAPSASLCIAILNLHRDSIA
				CTATTCCCACTTGTCCTCTAACCCCCTGTTCA		CGHQLIEHCCRLSKGLTNPEV
				TGCTGGAGCAGCTGCTTATGAACATGAAGGT		DAGLLTDIMKQLLFSAKMMFV
				GGATTGGGCCACTGTGGCTGTGCAGACTCTC		KAGQSQDLALCDSYISKVDVL
				CAGCAGCTGCTGGTTGGACAGGAGATTGGCT		NILVAAAYRHVPSLDQILQPAA
				TCACTATGGACGAGGTGGACTCACTGCTTTC		VTRLRNQLLEAEYYQLGVEVS
				CAGATACGCAGAGAAAGCCCTGGACTTTCCA		TKTGLDTTGAWHAWGMACLK
				TACCCTCAGAGGGAGAAACGATCAGATTCTG		AGNLTAAREKFSRCLKPPFDL
				TGATTCACCTCCAAGAAATTGTCCACCAGGC		NQLNHGSRLVQDVVEYLESTV
				TGCAGATCCCGAGACCCTCCCTAGATCACCA		RPFVSLQDDDYFATLRELEAT
				TCAGCAGAGTTCTCTCCTGCTGCTCCTCCTG		LRTQSLSLAVIPEGKIMNNTYY
				GTATCTCCAGTATACATTCCCCTAGTCTAAGG		QECLFYLHNYSTNLAIISFYVR
				GAAAGGAGTTTCCCACCAACCCAGCCCTCAC		HSCLREALLHLLNKESPPEVFI
				AGGAATTTGTGCCCCCAGCGACACCCCCTGC		EGIFQPSYKSGKLHTLENLLES
				CAGGCACCAGTGGGTACCGGATGAGACTGA		IDPTLESWGKYLIAACQHLQKK
				GAGTATCTGCATGGTCTGCTGCAGGGAGCAC		NYYHILYELQQFMKDQVRAAM
				TTCACCATGTTTAACAGGCGTCATCATTGTCG		TCIRFFSHKAKSYTELGEKLS
				CCGCTGTGGCCGGCTAGTGTGCAGCTCCTG		WLLKAKDHLKIYLQETSRSSG
				CTCCACTAAGAAAATGGTGGTTGAAGGCTGC		RKKTTFFRKKMTAADVSRHM
				AGAGAGAACCCTGCTCGTGTGTGTGATCAGT		NTLQLQMEVTRFLHRCESAGT
				GCTATAGTTACTGCAACAAAGATGTACCAGA		SQITTLPLPTLFGNNHMKMDV
				GGAGCCTTCAGAAAAACCAGAAGCTCTAGAC		ACKVMLGGKNVEDGFGIAFRV
				AGCTCCAAGAGTGAAAGCCCTCCATACTCGT		LQDFQLDAAMTYCRAARQLV
				TTGTGGTGAGAGTCCCCAAAGCAGATGAGGT		EKEKYSEIQQLLKCVSESGMA

				GGAATGGATTTTGGATCTCAAAGAGGAGGAA		AKSDGDTILLNCLEAFKRIPPQ
				AATGAGCTGGTGCGGAGTGAATTTTACTATG		ELEGLIQAIHNDDNKVRAYLIC
				AGCAGGCCCCCAGCGCCTCCTTGTGCATTGC		CKLRSAYLIAVKQEHSRATALV
				CATCCTGAATCTGCACCGGGACAGCATTGCC		QQVQQAAKSSGDAVVQDICA
				TGTGGTCACCAGCTGATTGAGCACTGCTGCA		QWLLTSHPRGAHGPGSRK*
				GGCTCTCCAAGGGCCTCACCAACCCAGAGG		
				TGGATGCCGGGCTGCTCACGGACATCATGAA		
				GCAGCTGCTGTTCAGCGCCAAGATGATGTTC		
				GTCAAAGCCGGCCAGAGCCAAGACTTGGCT		
				CTTTGTGACAGCTACATCAGCAAGGTAGATG		
				TGCTGAATATTTTAGTTGCTGCTGCCTATCGC		
				CACGTGCCATCTTTGGATCAGATCTTGCAGC		
				CAGCTGCAGTAACCAGGCTAAGGAACCAGCT		
				TTTGGAAGCCGAGTACTACCAACTGGGCGTT		
				GAGGTCTCCACAAAGACTGGGCTTGATACCA		
				CCGGGGCGTGGCATGCTTGGGGCATGGCCT		
				GCCTCAAAGCCGGGAACCTCACTGCTGCAC		
				GGGAGAAGTTCAGTCGCTGTCTGAAGCCCCC		
				ATTTGACCTCAATCAGCTGAATCATGGCTCAA		
				GGCTGGTGCAGGATGTGGTTGAGTACCTAGA		
				GTCCACAGTGAGGCCCTTTGTATCCTTGCAA		
				GATGACGATTACTTTGCCACCCTGAGGGAAC		
				TGGAAGCTACCCTTCGGACGCAGAGCCTTTC		
				TCTGGCAGTGATTCCTGAAGGGAAAATCATG		
				AACAACACCTACTACCAGGAATGCCTCTTCTA		
				CCTGCACAACTATAGCACCAACCTGGCCATC		
				ATCAGCTTCTACGTGAGGCACAGCTGCCTGC		
				GGGAAGCTCTTCTGCACCTTCTCAACAAGGA		
				GAGTCCTCCAGAAGTTTTTATAGAAGGCATTT		
				TCCAACCAAGCTATAAAAGTGGGAAGCTACA		
				CACTTTGGAGAACTTGCTAGAATCCATTGATC		
				CAACCTTGGAGAGCTGGGGAAAGTACTTGAT		
				TGCTGCCTGCCAACATTTACAGAAGAAGAAC		
				TACTACCACATTCTGTATGAGCTGCAGCAGTT		
				TATGAAGGACCAAGTTCGGGCCGCCATGACC		
				TGTATTCGGTTCTTCAGTCACAAAGCAAAGTC		

				ATATACAGAACTGGGAGAGAAGCTCTCATGG CTACTTAAGGCCAAGGACCACCTGAAGATCT ACCTCCAAGAAACATCCCGCAGCTCTGGAAG GAAGAAAACCACATTCTTCAGAAAGAAGATG ACTGCAGCTGATGTGTCAAGGCACATGAACA CACTTCAGCTGCAGATGGAAGTGACCAGGTT CTTGCATCGGTGCGAAAGTGCTGGGACCTCT CAAATCACCACTTTGCCTCTGCCAACCCTGTT TGGAAATAACCACATGAAAATGGATGTTGCCT GCAAGGTCATGCTGGGAGGGAAAAATGTAGA AGATGGTTTTGGAATTGCTTTCCGTGTTCTGC AGGACTTCCAGCTGGATGCTGCCATGACCTA CTGCAGAGCTGCCCGCCAGTTGGTGGAGAA AGAGAAGTACAGTGAGATCCAGCAACTGCTC AAATGTGTCAGTGAGTCAGGCATGGCAGCCA AAAGTGACGGGGACACCATCCTCCTCAACTG CCTGGAAGCGTTCAAGAGAATTCCGCCCCAG GAGCTGGAGGGCCTGATCCAGGCAATACAC AATGATGACAACAAGGTTCGGGCCTACCTGA TATGTTGCAAACTGCGTTCTGCCTACTTGATT GCTGTGAAGCAAGAACACTCACGGGCCACA GCCCTTGTCCAGCAGGTGCAGCAGGCCGCC AAGAGCAGCGGGGATGCAGTAGTGCAAGAC ATCTGTGCCCAGTGGCTTCTGACAAGCCACC CCCGGGGTGCCCATGGCCCAGGCTCCAGGA AGTGA		
Shigella ospC1	3	prey67279	66	CTCCCTCTCTGCCTAGCTGGCTTTCTGTAAAT AATTATTTGTGTCATAGCTTACAGCTTTTTAAA CATTTTCACTTTTATTATTTCATTTAATTTTCAC ACCAGCCCCGAAAAGTGTTTTTTCCACTTTAC AAATTAAGATGCAGAAGCTCAGCAATANNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNGGGGAA GCTCAGCAATATTAAATGTCTGGGCCAATTAC	267	LPLCLAGFL*IIICVIAYSFLNIFT FIISFNFHTSPEKCFFHFTN*DA EAQQXXXXXXXXXXXXXXXX XXXXXXXXXXXXGEAQQY*M SGPIT*SVS

				GTAATCAGTAAGC		
Shigella ospC1	3	prey67280	67	AATTTCCACCTCCCAAGGGAAGTTTATGTATT TTTCTAGGCCCTTTTCTATGTCTTTACATCTCT GTCTCACACACACACACGTATACACACACAC AGTTTATTTTTAATAAAATAGGATTATACCACA CACATCCTGTCACTTGCTTTTTTGCTTAAGAG TATATCTAAGAGAATCCTTTGTGTCAGTGAAG CTGGAGCTACCTCATTCTTTTAACTGGCTGC GTGGCGTTCCATTGAGTGTCTGTCATCATGT GTTTAGCCGAGTGGATGGATAGTCTGCTTGT TTTTAGTTTNTGC	268	NFHLPREVYVFF*ALFYVFTSL SHTHTRIHTHSLFLIK*DYTTHIL SLAFLLKSISKRILCVSEAGATS FF*LAAWRSIECLSSCV*PSGW IVCLFLVX
Shigella ospC1	3	prey49194	68	CAACCCCGTGCCCCTCTATGCGCCAAATCTC AGCCCGCCTGCGGACAGCAGGATCCACGTG CCGGCCAGTGGGTACTGCTGCCTGGAGTGT GGAGACGCATTTGCCTTAGAGAAGAGCCTGA GCCAGCACTATGGCCGGCGGAGCGTCCACA TTGAGGTACTGTGCACACTGTGCTCCAAGAC GCTGCTCTTCTTCAACAAGTGCAGCCTGCTC CGGCACGCCCGTGACCACAAGAGCAAGGGG CTCGTCATGCAGTGTTCCCAGCTGCTGGTGA AGCCTATCTCTGCGGACCAAATGTTCGTGTC GGCCCCTGTGAACTCCACGGCACCAGCAGC CCCAGCCCCTTCATCCTCTCCCAAACATGGC CTCACTTCGGGCAGTGCCAGTCCCCCTCCTC CAGCCTTGCCACTCTACCCAGACCCTGTGAG GCTCATCCGGTACTCAATCAAGTGTCTTGAAT GTCACAAGCAGATGCGGGACTACATGGTCCT GGCTGCACATTTCCAGAGGACAACAGAGGAG ACAGAGGGGCTGACCTGCCAGGTATGCCAG ATGCTGCTGCCCAACCAGTGCAGTTTCTGTG CCCACCAGCGGATTCATGCACACAAGTCCCC CTACTGCTGCCCGGAGTGTGGGGTCCTCTG CCGCTCTGCCTACTTCCAGACCCATGTAAAG GAGAATTGCCTGCACTATGCCCGCAAGGTGG GCTACAGGTGCATCCACTGTGGTGTCGTCCA	269	NPVPLYAPNLSPPADSRIHVP ASGYCCLECGDAFALEKSLSQ HYGRRSVHIEVLCTLCSKTLLF FNKCSLLRHARDHKSKGLVM QCSQLLVKPISADQMFVSAPV NSTAPAAPAPSSSPKHGLTSG SASPPPPALPLYPDPVRLIRYS IKCLECHKQMRDYMVLAAHFQ RTTEETEGLTCQVCQMLLPNQ CSFCAHQRIHAHKSPYCCPEC GVLCRSAYFQTHVKENCLHYA RKVGYRCIHCGVVHLTLALLK SHIQERHCQVFHKCAFCPMAF KTASSTADHSATQHPTQPHRP SQLIYKCSCEMVFNKKRHIQQ HFYQNVSKTQVGVFKCPECPL LFVQKPELMQHVKSTHGVPR NVDELSNLQSSADTSSSRPGS RVPTEPPATSVAARSSSLPSG RWGRPEAHRRVEARPRLRNT GWTCQECQEWVPDRESYVS HMKKSHGRTLKRYPCRQCEQ SFHTPNSLRKHIRNNHDTVKK FYTCGYCTEDSPSFPRPSLLE

				CCTGACCTTGGCCTTGCTGAAAAGCCACATC CAGGAGCGACACTGCCAGGTTTTCCACAAAT GTGCATTCTGCCCCATGGCCTTCAAGACTGC CAGCAGCACTGCAGACCACAGTGCCACCCA GCACCCCACCCAGCCCCACAGACCCTCCCA GCTCATTTATAAGTGCTCCTGTGAAATGGTCT TCAACAAGAAGAGGCACATTCAGCAGCATTT TTACCAGAATGTCAGCAAGACGCAGGTGGGC GTCTTCAAGTGCCCTGAGTGCCCACTCTTGT TCGTGCAGAAGCCGGAGTTGATGCAACACGT CAAGAGCACCCACGGTGTTCCCCGAAATGTG GACGAGCTGTCAAACCTCCAGTCTTCAGCGG ACACATCCTCAAGCCGCCCTGGCTCTCGAGT TCCCACTGAGCCACCAGCCACTAGTGTGGCT GCTCGGAGCAGCTCCCTGCCTTCTGGCCGC TGGGGTAGGCCTGAAGCCCACCGCAGGGTG GAAGCCAGGCCGCGGCTGAGGAACACTGGC TGGACCTGCCAGGAGTGCCAGGAGTGGGTT CCAGATCGGGAGAGCTACGTGTCCCACATGA AAAAGAGCCACGGTCGGACATTGAAGCGGTA CCCATGCCGGCAGTGTGAACAGTCCTTCCAC ACCCCCAACAGCCTGCGCAAACACATCCGCA ACAACCATGACACAGTAAAGAAGTTCTACAC CTGCGGGTACTGCACAGAGGACAGCCCCAG CTTTCCTCGGCCCTCCCTTCTGGAGAGCCAC ATCAGCCTTATGCATGGCATCAGAAACCCTG ATTTGAGCCAGACGTCCAAAGTGAAACCTCC GGGTGGACATTCCCCTCAGGTGAACCATCTG AAAAGACCAGTCAGTGGAGTGGGGGACGCT CCAGGCACCAGCAATGGCGCAACTGTCTCTT CCACCAAAAGGCACAAGTCCCTTTTTCAGTG CGCGAAATGTAGTTTTGCCACAGACTCGGGG CTCGAGTTTCAGAGCCACATACCTCAGCACC AGGTGGACAGCTCCACAGCCCAATGTCTCCT CTGTGGTTTGTGCTACACCTCTGCCAGCTCC CTCAGCCGCCACCTCTTCATTGTCCACAAGG		SHISLMHGIRNPDLSQTSKVKP PGGHSPQVNHLKRPVSGVGD APGTSNGATVSSTKRHKSLFQ CAKCSFATDSGLEFQSHIPQH QVDSSTAQCLLCGLCYTSASS LSRHLFIVHKVRDQEEEEEEE AAAAEMAVEVAEPEEGSGEE VPMETRENGLEECAGEPLSA DPEARRLLGPAPEDDGGHND HSQPQASQDQDSHTLSPQV*

				TGAGAGACCAGGAGGAGGAGGAGGAAGAGG AGGCGGCGGCAGCGGAGATGGCAGTGGAG GTGGCAGAGCCAGAGGAGGGCTCCGGGGA GGAGGTGCCCATGGAGACTAGAGAGAATGG ACTGGAAGAATGTGCCGGTGAGCCTTTGTCA GCTGACCCAGAGGCGAGGAGATTGCTGGGC CCGGCCCCTGAGGACGATGGTGGCCACAAT GATCACAGTCAACCACAGGCCTCTCAGGACC AGGACAGCCACACACTGTCCCCTCAGGTGTG A		
Shigella ospC1	3	prey67287	69	GAACACTCCTCTAGCTTAGTTATGCTGTTCTT TTAAGTTTGTCTTTGAGTTGGGAAAGTAGACC TATTTGGCTTGGCTTAAGGGCTAAATGTCTCC TCTTCACTTGGTCTTCTAATCCTCAGTCCTTC CTGGCTATGTGGCATCATGTCTTTAAAGCAG GGAGAGTAAAGTATCAATATTTTAAGAAGGAA CATTCTTCCCACTTACGTTTTCTATTCTTCTTT CTTTTGAGCCCTTTCTAGAAAGAGTAATGCTC TAGCCTTCAACCAGAAATGAAAAGTCTATG	270	EHSSSLVMLFF*VCL*VGKVDL FGLA*GLNVSSSLGLLILSPSW LCGIMSLKQGE*SINILRRNILP TYVFYSSFF*ALSRKSNALAFN QK*KVY
Shigella ospC1	3	prey19931	70	GGTGCACCAAGTGACAGACCTTTCTAGAAAT GCCCAGCTGTTCAAGCGCTCTTTGCTGGAGA TGGCAACGTTCTGA	271	VHQVTDLSRNAQLFKRSLLEM ATF*
Shigella ospC1	3	prey67290	71	GGGGGGGTGGGGATGGGGAGGTAATAACNN NATNTTCTTTTGGTANTNATACAGTGTGGNAN TCTCNTNTGAANNNTTCTATNGACNANAAATA TCTTTTTTTTTNTCTTATCTTTCTNTTGTCTTCT GTGGGAGANGGCTGCTNTNTTTTTTTANNGNC TTTGTNTATTTTTCNTATTAGCAGAATATCAGC NNNNCTGNTNCTNCNATATTTTATGANATANN TGCTTNTAANCNTNTANAATCTGATTAATATTT ATNNACTTNTTTTACATCATATAGANNATATCT TT	272	GGVGMGR**XXXLLVXIQCGX LX*XXLXTXNIFFXSYLSXVFC GRXLLXFLXXLXIFXISRISAXL XLXYFMXXXLXXXXNLINIYXL XLHHIXXIF
Shigella ospC1	3	prey67291	72	TTTGAAGGGNTCNTANNAACATAGGANAATG TGGCTATAGTTTGGAACCTNCTACATATTTGT TGAATGGCTTTGACANACTTGCTGATAGTGAT	273	FEGXXXT*XNVAIVWNLLHIC* MALTXLLIVI*TLXSKLRWSQM EMRNLLGTEXQVTLVMFXPRP

				ATGAACATTANNGTCCAAGCTGAGGTGGTCT CAAATGGAGATGAGGAACTTGTTGGGAACTG AAGNACAGGTGACTCTTGTTATGTTTTANCCA AGACCACTGTCNTCATTTTGCCTNTGCCCTAN ANATTTNTGGAACTTTNACNTTGAGANANATG ATNCANGATCTTGGNNGANGANNTNNNTAAN NGNNNTATATTNN		LSSFCLCPXXXWNFXXEXXDX XSWXXXXXXXXYX
Shigella ospC1	3	prey67294	73	GCACAAGCCGTCATACCATACCAGGCAGTAA AAATTTACTCCTTAGTTTTCTTCTANAAATAGA TTAAGTCTGTGATCCATTTTGGGTTAATTTTTC TGTGATGTATACTATTGTTTGAGGTTAATTTTT TTCTAGTTTTAAAATTTTCATCCAGTTGTTCCA GCNTCNCTTGTTGAGAAAATTGTTNTTCCCAT TAANATTACTTTGGATACCTNGNGTGANGNNT ATATGNGGNCTATANNGTGTNGNGNAACNCG ACGCTGCGCAGNGTGGCNTANCGTCGTAAG NNANGTAGNGNANAGNGCCGNGAGA	274	AQAVIPYQAVKIYSLVFFXK*IK SVIHFGLIFL*CILLFEVNFFLVL KFSSSCSSXXC*ENCXSH*XYF GYLX*XXYXXYXVXXNXTLRX VAXRRKXXXXXXRE
Shigella ospC1	3	prey67296	74	AGAGTGGGGATGGGCTGGGCCTCTGTTCGT CCGTCCGACCCCCCTCATGTGTGCTGCCCCA AACCTCGCCGCTCCCTAGTTTGGTATTCTGT GTCCGGCCTGGGGTAGTAGCTGGACACCAG ACTCAATCTTGGGCTCCAGTTCCCGACTTTTC GCCTCCTCTGGGTCTGTCCTGGGGTCAGTAA TTAACCCGGGTCCCAGGGGTGTCGTCTTTTC CCTCCAGGGTGGGGCGCTGCCTGTACATGC CAGGGATCTTTTGCAGGGCTTTTCATCCANAT TTGCTTCAGGG	275	RVGMGWASVRPSDPPHVCC PKPRRSLVWYSVSGLG**LDT RLNLGLQFPTFRLLWVCPGVS N*PGSQGCRLFPPGWGAACT CQGSFAGLFIXICFR
Shigella ospC1	3	prey67299	75	CCTCCTCCTCCAACACACGTGCACACAGTGT CTGCCCAATGCCTACTTTTTTTTTTTAAANGA AANTTTNANTTNGNAANTANAANNNGGNTAAA ANGNCNTNNNCNTNTANCCTTTTNNNGTTTTT TTTNNTTTTNTTTTTTTNGNTAANNNANNNGTT TTTNAAAAAGGTNNAAAAAAATNTTNACANTT TTNGGGGNTAANCTTTTAATTTAAAACTTNGN CCCCTTAAATTANCCACCNCAANNTANCAAAT	276	PPPPTHVHTVSAQCLLFFFKX XFXXXXXXXXKXXXXXXFXXF FXFXFFX*XXXFXKRXKKXXTX XGXXLLI*NXXPLNXPPQXXKF XRFXKXXLG

				TTTNAAGGTTTTNAAAAAANNGTTTGGGA		
Shigella ospC1	3	prey4637	76	AGCAGAAGGATGATAAAGAACCGCAGCCAGT	277	QKDDKEPQPVKKTVTGTDADL
				GAAGAAGACAGTGACAGGAACAGATGCAGAC		RRLSLKNAKQLLRKFGVPEEEI
				CTTCGTCGCCTTTCCCTGAAAAATGCCAAGC		KKLSRWEVIDVVRTMSTEQAR
				AACTTCTACGTAAATTTGGTGTGCCTGAGGAA		SGEGPMSKFARGSRFSVAEH
				GAGATTAAAAAGTTGTCCCGCTGGGAAGTGA		QERYKEECQRIFDLQNKVLSS
				TTGATGTGGTGCGCACAATGTCAACAGAACA		TEVLSTDTDSSSAEDSDFEEM
				GGCTCGTTCTGGAGAGGGGCCCATGAGTAA		GKNIENMLQNKKTSSQLSRER
				ATTTGCCCGTGGATCAAGGTTTTCTGTGGCT		EEQERKELQRMLLAAGSAAS
				GAGCATCAAGAGCGTTACAAAGAGGAATGTC		GNNHRDDDTASVTSLNSSAT
				AGCGCATCTTTGACCTACAGAACAAGGTTCT		GRCLKIYRTFRDEEGKEYVRC
				GTCATCAACTGAAGTCTTATCAACTGACACAG		ETVRKPAVIDAYVRIRTTKDEE
				ACAGCAGCTCAGCTGAAGATAGTGACTTTGA		FIRKFALFDEQHREEMRKERR
				AGAAATGGGAAAGAACATTGAGAACATGTTG		RIQEQLRRLKRNQEKEKLKGP
				CAGAACAAGAAAACCAGCTCTCAGCTTTCAC		PEKKPKKMKERPDLKLKCGAC
				GTGAACGGGAGGAACAGGAGCGGAAGGAAC		GAIGHMRTNKFCPLYYQTNAP
				TACAGCGAATGCTACTGGCAGCAGGCTCAGC		PSNPVAMTEEQEEELEKTVIH
				AGCATCCGGAAACAATCACAGAGATGATGAC		NDNEELIKVEGTKIVLGKQLIES
				ACAGCTTCCGTGACTAGCCTTAACTCTTCTGC		ADEVRRKSLVLKFPKQQLPPK
				CACTGGACGCTGTCTCAAGATTTATCGCACG		KKRRVGTTVHCDYLNRPHKSI
				TTTCGAGATGAAGAGGGGAAAGAGTATGTTC		HRRRTDPMVTLSSILESIINDM
				GCTGTGAGACAGTCCGAAAACCAGCTGTCAT		RDLPNTYPFHTPVNAKVVKDY
				TGATGCCTATGTGCGCATACGGACTACAAAA		YKIITRPMDLQTLRENVRKRLY
				GATGAGGAATTCATTCGAAAATTTGCCCTTTT		PSREEFREHLELIVKNSATYN
				TGATGAACAACATCGGGAAGAGATGCGAAAA		GPKHSLTQISQSMLDLCDEKL
				GAACGGCGGAGGATTCAAGAGCAACTGAGG		KEKEDKLARLEKAINPLLDDDD
				CGGCTTAAGAGGAACCAGGAAAAGGAGAAG		QVAFSFILDNIVTQKMMAVPD
				CTTAAGGGTCCTCCTGAGAAGAAGCCCAAGA		SWPFHHPVNKKFVPDYYKVIV
				AAATGAAGGAGCGTCCTGACCTAAAACTGAA		NPMDLETIRKNISKHKYQSRE
				ATGTGGGGCATGTGGTGCCATTGGACACATG		SFLDDVNLILANSVKYNGPES
				AGGACTAACAAATTCTGCCCCCTCTATTATCA		QYTKTAQEIVNVCYQTLTEYD
				AACAAATGCGCCACCTTCCAACCCTGTTGCC		EHLTQLEKDICTAKEAALEEAE
				ATGACAGAAGAACAGGAGGAGGAGTTGGAAA		LESLDPMTPGPYTPQPPDLYD
				AGACAGTCATTCATAATGATAATGAAGAACTT		TNTSLSMSRDASVFQDESNM
				ATCAAGGTTGAAGGGACCAAAATTGTCTTGG		SVLDIPSATPEKQVTQEGEDG

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				GGAAACAGCTAATTGAGAGTGCGGATGAGGT TCGCAGAAAATCTCTGGTTCTCAAGTTTCCTA AACAGCAGCTTCCTCCAAAGAAGAAACGGCG AGTTGGAACCACTGTTCACTGTGACTATTTGA ATAGACCTCATAAGTCCATCCACCGGCGCCG CACAGACCCTATGGTGACGCTGTCGTCCATC TTGGAGTCTATCATCAATGACATGAGAGATCT TCCAAATACATACCCTTTCCACACTCCAGTCA ATGCAAAGGTTGTAAAGGACTACTACAAAATC ATCACTCGGCCAATGGACCTACAAACACTCC GCGAAAACGTGCGTAAACGCCTCTACCCATC TCGGGAAGAGTTCAGAGAGCATCTGGAGCTA ATTGTGAAAAATAGTGCAACCTACAATGGGC CAAAACACTCATTGACTCAGATCTCTCAATCC ATGCTGGATCTCTGTGATGAAAAACTCAAAGA GAAAGAAGACAAATTAGCTCGCTTAGAGAAA GCTATCAACCCCTTGCTGGATGATGATGACC AAGTGGCGTTTTCTTTCATTCTGGACAACATT GTCACCCAGAAAATGATGGCAGTTCCAGATT CTTGGCCATTTCATCACCCAGTTAATAAGAAA TTTGTTCCAGATTATTACAAAGTGATTGTCAA TCCAATGGATTTAGAGACCATACGTAAGAACA TCTCCAAGCACAAGTATCAGAGTCGGGAGAG CTTTCTGGATGATGTAAACCTTATTCTGGCCA ACAGTGTTAAGTATAATGGACCTGAGAGTCA GTATACTAAGACTGCCCAGGAGATTGTGAAC GTCTGTTACCAGACATTGACTGAGTATGATGA ACATTTGACTCAACTTGAGAAGGATATTTGTA CTGCTAAAGAAGCAGCTTTGGAGGAAGCAGA ATTAGAAAGCCTGGACCCAATGACCCCAGGG CCCTACACGCCTCAGCCTCCTGATTTGTATG ATACCAACACATCCCTCAGTATGTCTCGAGAT GCCTCTGTATTTCAAGATGAGAGCAATATGTC TGTCTTGGATATTCCCAGTGCCACTCCAGAA AAGCAGGTAACACAGGAAGGTGAAGATGGA GATGGTGATCTTGCAGATGAAGAGGAAGGAA		DGDLADEEEGTVQQPQASVL YEDLLMSEGEDDEEDAGSDE EGDNPFSAIQLSESGSDSDVG SGGIRPKQPRMLQENTRMDM ENEESMMSYEGDGGEASHGL EDSNISYGSYEEPDPKSNTQD TSFSSIGGYEVSEEEEDEEEE EQRSGPSVLSQVHLSEDEED SEDFHSIAGDSDLDSDE*

				CTGTACAACAGCCTCAAGCCAGTGTCCTGTA TGAGGATTTGCTTATGTCTGAAGGAGAAGAT GATGAGGAAGATGCTGGGAGTGATGAAGAA GGAGACAATCCTTTCTCTGCTATCCAGCTGA GTGAAAGTGGAAGTGACTCTGATGTGGGATC TGGTGGAATAAGACCCAAACAACCCCGCATG CTTCAGGAGAACACAAGGATGGACATGGAAA ATGAAGAAAGCATGATGTCCTATGAGGGAGA CGGTGGGGAGGCTTCCCATGGTTTGGAGGA TAGCAACATCAGTTATGGGAGCTATGAGGAG CCTGATCCCAAGTCGAACACCCAAGACACAA GCTTCAGCAGCATCGGTGGGTATGAGGTATC AGAGGAGGAAGAAGATGAGGAGGAGGAAGA GCAGCGCTCTGGGCCGAGCGTACTAAGCCA GGTCCACCTGTCAGAGGACGAGGAGGACAG TGAGGATTTCCACTCCATTGCTGGGGACAGT GACTTGGACTCTGATGAATGA		
Shigella ospC1	3	prey67316	77	CCACTCTACTCCACAAGGCTCATTCTAACTTC CCCCCTTGCTTATTTGTAACTTTTTTCTCTGA GAGTGAGACCCCAACTTTCATTATCTACAACA TATCTATCTATTTATTATACTTGTAGTTTCAAA ATTACTGAGAAACAAATTTACTACCTAGAATA CTGTGTTAATATACAATTTTCTTTAGTTTTACA GTATCCAGTCAAAAGGCTGTCTTCCAAAATTG CTTAGGTCAGCTCCTTCTCCATGCAACTCTTT CAGTGAGGCTGNATCATGCGTTTGTAATATT GTTAGAT	278	PLYSTRLILTSPLAYL*LFSLRV RPQLSLSTTYLSIYYTCSFKITE KQIYYLEYCVNIQFSLVLQYPV KRLSSKIA*VSSFSMQLFQ*GXI MRL*YC*
Shigella ospC1	3	prey67318	78	CCACCGCACCTGACCTTAGTTTTTTTCTGACG TGGTCCTCTTCTTTTATCTCTAAGACTTATGAT TGCTAAGACAACAAAAGATACCATCGTTACTG GCCAACCTTGGAATTTGGTCTTGGGAAATGG AGGCCTGTAGTTTGTAACCCATAAGAAGAGA CTGAAGGGGCCTAAGTGCAGATGAGAATCCC TGGTGATAGAACAGACAAGAACTGGAGATCA ATGCCAATAGTTTGTGATGAACGTCTTGGGG	279	PPHLTLVFF*RGPLLLSLRLMIA KTTKDTIVTGQPWNLVLGNGG L*FVTHKKRLKGPKCR*ESLVIE QTRTGDQCQ*FVMNVLGFLC DQPVGISV

				TTCCTGTGTGATCAACCTGTTGGGATTTCTGT ATT		
Shigella ospC1	3	prey7144	79	GGAAGCCAGAAAAGCCCACCAACTCTGGCTT TCAGTGGAGGCATTAAAGTACAGCATGAAGA CCTCATCTGCAGAAACACCTACTATCCCGCT GGGTAGTGCAGTTGAGGCCATCAAAGCCAAC TGTTCTGATAATGAATTCACCCAAGCTTTAAC CGCAGCTATCCCTCCAGAGTCCCTGACCCGT GGGGTGTACAGTGAAGAGACCCTTAGAGCC CGTTTCTATGCTGTTCAAAAACTGGCCCGAA GGGTAGCAATGATTGATGAAACCAGAAATAG CTTGTACCAGTACTTCCTCTCCTACCTACAGT CCCTGCTCCTATTCCCACCTCAGCAACTGAA GCCGCCCCCAGAGCTCTGCCCTGAGGATATA AACACATTTAAATTACTGTCATATGCTTCCTAT TGCATTGAGCATGGTGATCTGGAGCTAGCAG CAAAGTTTGTCAATCAGCTGAAGGGGGAATC CAGACGAGTGGCACAGGACTGGCTGAAGGA AGCCCGAATGACCCTAGAAACGAAACAGATA GTGGAAATCCTGACAGCATATGCCAGCGCCG TAGGAATAGGAACCACTCAGGTGCAGCCAGA GTGA	280	EARKAHQLWLSVEALKYSMKT SSAETPTIPLGSAVEAIKANCS DNEFTQALTAAIPPESLTRGVY SEETLRARFYAVQKLARRVAM IDETRNSLYQYFLSYLQSLLLF PPQQLKPPPELCPEDINTFKLL SYASYCIEHGDLELAAKFVNQ LKGESRRVAQDWLKEARMTL ETKQIVEILTAYASAVGIGTTQV QPE*
Shigella ospC1	3	prey67328	80	ATGAAATCCCAATGGTGTAGACCAGTGGCGA TGGATCTAGGAGTTTACCAACTGAGACATTTT TCAATTTCTTTCTTGTCATCCTTGCTGGGGAC TGAAAACGCTTCTGTGAGACTTGATAATAGCT CCTCTGGTGCAAGTGTGGTAGCTATTGACAA CAAAATCGAGCAAGCTATGGATCTAGTGAAA AGCCATTTGATGTATGCGGTCAGAGAAGAAG TGGAGGTCCTCAAAGAGCAAATCAAAGAACT AATAGAGAAAAATTCCCAGCTGGAGCAGGAG AACAATCTGCTGAAGACACTGGCCAGTCCTG AGCAGCTTGCCCAGTTTCAGGCCCAGCTGCA GACTGGCTCCCCCCCTGCCACCACCCAGCC ACAGGGCACCACACAGCCCCCCGCCCAGCC	281	MKSQWCRPVAMDLGVYQLR HFSISFLSSLLGTENASVRLDN SSSGASVVAIDNKIEQAMDLV KSHLMYAVREEVEVLKEQIKE LIEKNSQLEQENNLLKTLASPE QLAQFQAQLQTGSPPATTQP QGTTQPPAQPASQGSGPTA*

				AGCATCGCAGGGCTCAGGACCAACCGCATA G		
Shigella ospC1	3	prey37430	81	GTGGGAACAAGAGCTATACAATAACTTTGTAT ATAATAGTCCTAGAGGATATTTTCATACCTTT GCTGGAGATACTTGTCAAGTTGCTCTTAATTT TGCCAATGAAGAAGAAGCAAAAAAATTTCGAA AAGCAGTTACAGACCTTTTGGGCCGTCGACA AAGGAAATCTGAGAAAAGACGAGATCCCCCA AATGGTCCTAATCTACCCATGGCTACAGTTGA TATAAAAAAATCCAGAAATCACAACAAATAGAT TTTATGGTCCACAAGTCAACAACATCTCCCAT ACCAAAGAAAAGAAGAAGGGAAAAGCTAAAA AGAAGAGATTAACCAAGGGAGATATAGGAAC ACCAAGCAATTTCCAGCACATTGGACATGTT GGTTGGGATCCAAATACAGGCTCTGATCTGA ATAATTTGGATCCAGAATTGAAGAATCTTTTT GATATGTGTGGAATCTTAGAGGCACAACTTAA AGAAAGAGAAACATTAAAAGTTATATATGACT TTATTGAAAAAACAGGAGGTGTTGAAGCTGTT AAAAATGAACTGCGGAGGCAAGCACCACCAC CTCCACCACCATCAAGGGGAGGGCCACCTC CTCCTCCTCCCCCTCCACATAGCTCGGGTCC TCCTCCTCCTCCTGCTAGGGGAAGAGGCGCT CCTCCCCCACCACCTTCAAGAGCTCCCACAG CTGCACCTCCACCACCGCCTCCTTCCAGGCC AAGTGTAGAAGTCCCTCCACCACCGCCAAAT AGGATGTACCCTCCTCCACCTCCAGCCCTTC CCTCCTCAGCACCTTCAGGGCCTCCACCACC ACCTCCATCTGTGTTGGGGGTAGGGCCAGTG GCACCACCCCCACCGCCTCCACCTCCACCTC CTCCTGGGCCACCGCCCCCGCCTGGCCTGC CTTCTGATGGGGACCATCAGGTTCCAACTAC TGCAGGAAACAAAGCAGCTCTTTTAGATCAAA TTAGAGAGGGTGCTCAGCTAAAAAAAGTGGA GCAGAACAGTCGGCCAGTGTCCTGCTCTGGA	282	WEQELYNNFVYNSPRGYFHT FAGDTCQVALNFANEEEAKKF RKAVTDLLGRRQRKSEKRRD PPNGPNLPMATVDIKNPEITTN RFYGPQVNNISHTKEKKKGKA KKKRLTKGDIGTPSNFQHIGH VGWDPNTGSDLNNLDPELKN LFDMCGILEAQLKERETLKVIY DFIEKTGGVEAVKNELRRQAP PPPPPSRGGPPPPPPPPHSS GPPPPPARGRGAPPPPPSRA PTAAPPPPPPSRPSVEVPPPP PNRMYPPPPPALPSSAPSGPP PPPPSVLGVGPVAPPPPPPPP PPPGPPPPPGLPSDGDHQVP TTAGNKAALLDQIREGAQLKK VEQNSRPVSCSGRDALLDQIR QGIQLKSVADGQESTPPTPAP TSGIVGALMEVMQKRSKAIHS SDEDEDEDDEEDFEDDDEWE D*

				CGAGATGCACTGTTAGACCAGATACGACAGG GTATCCAACTAAAATCTGTGGCTGATGGCCA AGAGTCTACACCACCAACACCTGCACCCACT TCAGGAATTGTGGGTGCATTAATGGAAGTGA TGCAGAAAAGGAGCAAAGCCATTCATTCTTC AGATGAAGATGAAGATGAAGATGATGAAGAA GATTTTGAGGATGATGATGAGTGGGAAGACT GA		
Shigella ospC1	3	prey67351	82	ATTGCCTTCCATGTCTACTGTGATTCAGCTTT GGGAAGATATTTTCTGTTCCTTTTGCTGCTTT GACTCCCTGCCGCGCCCCCCTTACTTACGCT TCAAATCTGCCTACCAGGTTTTCCATTTCCAG GCAGTCTTTTCTAATTTTTTCCACCTGGAAGA AACTTTCTTTTCTCTGAGTTCGTAATCTTATAA TAAGTACCTATTTTTCTCTTCTTCTAGCGTATA TAAAATGTATTATCTGACGTGTCAAGTGAGTT AATGCATTTAAAGAGCCTAGGAATGGTACCTA C	283	IAFHVYCDSALGRYFLFLLLL*L PAAPPLLTLQICLPGFPFPGSL F*FFPPGRNFLFSEFVIL**VPIF LFF*RI*NVLSDVSSELMHLKSL GMVP
Shigella ospC1	3	prey67353	83	GGAGAAGAGAGGGAGCAACTCGGTATTTGTC CACAAAAAGAGTATTATTCCAGAGGAAGAGT GTTATATAAATTGTGTTTTCCAATAAAAATAGT GATGTCTATCAGTTCAGTGTACATGGACCTTT GCAGTGAGTCAGAGATTTGGCCTAGGCCTGT GGGGGATATCCCTGGGAGAAACTGTCTTGTC AAAGGAAGTTAGCATTTGAGACGATGGCATG ATCTTTGCCCACTTATCCCATCAAAAAGAGTT TTGAAAGGATAGCANGGAAGCATTGATATGA NAGGCTACTCTCA	284	EKRGSNSVFVHKKSIIPEEECY INCVFQ*K**CLSVQCTWTFAV SQRFGLGLWGISLGETVLSKE VSI*DDGMIFAHLSHQKEF*KD SXEALI*XATL
Shigella ospC1	3	prey25185	84	GGCTGCCCTGCCTGATGACATCCGTCGGGA AGTTCTACAGAACCAGCTAGGCATTCGTCCA CCAACCCGGACTGCCCCCTCCACAAATAGCT CAGCGCCTGCAGTGGTGGGGAATCCTGGTG TGACTGAAGTGAGCCCTGAGTTTCTGGCTGC CCTGCCTCCAGCCATTCAGGAGGAAGTACTG GCACAGCAGAGAGCTGAGCAGCAGCGACGA	285	AALPDDIRREVLQNQLGIRPPT RTAPSTNSSAPAVVGNPGVTE VSPEFLAALPPAIQEEVLAQQR AEQQRRELAQNASSDTPMDP VTFIQTLPSDLRRSVLEDMED SVLAVMPPDIAAEAQALRREQ EARQRQLMHERLFGHSSTSA

				GAACTAGCACAGAATGCCAGCTCAGACACCC		LSAILRSPAFTSRLSGNRGVQ
				CTATGGACCCTGTGACCTTCATCCAGACTCT		YTRLAVQRGGTFQMGGSSSH
				GCCCTCAGACCTGCGCCGTAGTGTCCTAGAG		NRPSGSNVDTLLRLRGRLLLD
				GATATGGAGGACAGTGTGTTAGCTGTGATGC		HEALSCLLVLLFVDEPKLNTSR
				CACCTGACATTGCAGCTGAGGCTCAAGCCCT		LHRVLRNLCYHAQTRHWVIRS
				GAGACGAGAGCAAGAAGCCCGGCAGCGACA		LLSILQRSSESELCIETPKLTTS
				GCTCATGCATGAGCGTCTGTTTGGGCACAGT		EEKGKKSSKSCGSSSHENRP
				AGCACCTCCGCACTCTCTGCTATTCTCCGAA		LDLLHKMESKSSNQLSWLSVS
				GCCCGGCTTTCACCAGTCGCTTAAGTGGCAA		MDAALGCRTNIFQIQRSGGRK
				CCGTGGGGTCCAGTATACTCGCCTTGCTGTG		HTEKHASGGSTVHIHPQAAPV
				CAGAGAGGTGGCACCTTCCAGATGGGGGGT		VCRHVLDTLIQLAKVFPSHFTQ
				AGCAGCAGCCATAACAGGCCTTCTGGCAGTA		QRTKETNCESDRERGNKACS
				ATGTAGATACTCTCCTCCGCCTCCGAGGACG		PCSSQSSSSGICTDFWDLLVK
				GCTCCTTCTGGACCACGAAGCCCTTTCTTGT		LDNMNVSRKGKNSVKSVPVS
				CTCTTGGTCCTACTTTTTGTGGATGAGCCAAA		AGGEGETSPYSLEASPLGQL
				GCTCAATACTAGCCGTCTACACCGAGTACTG		MNMLSHPVIRRSSLLTEKLLRL
				AGAAATCTCTGCTACCATGCCCAGACCCGCC		LSLISIALPENKVSEAQANSGS
				ACTGGGTCATCCGCAGTCTGCTCTCCATCTT		GASSTTTATSTTSTTTTTAAST
				GCAGCGCAGCAGTGAGAGTGAGCTATGCATT		TPTPPTAPTPVTSAPALVAATA
				GAAACACCCAAACTCACTACAAGTGAGGAAA		ISTIVVAASTTVTTPTTATTTVSI
				AGGGCAAAAAGTCGAGCAAGAGCTGTGGGT		SPTTKGSKSPAKVSDGGSSST
				CAAGTAGCCATGAGAACCGTCCCCTGGACCT		DFKMVSSGLTENQLQLSVEVL
				GCTACACAAGATGGAGTCAAAGAGCTCCAAC		TSHSCSEEGLEDAANVLLQLS
				CAGCTTTCCTGGCTCTCAGTATCCATGGATG		RGDSGTRDTVLKLLLNGARHL
				CAGCCCTAGGCTGCAGGACTAATATATTTCA		GYTLCKQIGTLLAELREYNLEQ
				GATCCAGCGTTCAGGGGGGCGTAAACATACC		QRRAQCETLSPDGLPEEQPQ
				GAGAAGCATGCAAGCGGTGGCTCCACCGTC		TTKLKGKMQSRFDMAENVVIV
				CACATCCATCCCCAAGCTGCTCCTGTTGTCT		ASQKRPLGGRELQLPSMSML
				GCAGACACGTTTTGGATACACTCATTCAATTG		TSKTSTQKFFLRVLQVIIQLRD
				GCCAAGGTATTTCCCAGCCACTTCACACAGC		DTRRANKKAKQTGRLGSSGL
				AGCGGACCAAAGAAACAAACTGTGAGAGTGA		GSASSIQAAVRQLEAEADAIIQ
				TCGGGAAAGGGGCAATAAGGCCTGTAGCCC		MVREGQRARRQQQAATSESS
				ATGCTCCTCACAGTCCTCCAGCAGTGGCATT		QSEASVRREESPMDVDQPSP
				TGCACAGACTTCTGGGACTTATTGGTAAAACT		SAQDTQSIASDGTPQGEKEKE
				GGACAACATGAATGTCAGCCGGAAAGGCAAG		ERPPELPLLSEQLSLDELWDM
				AACTCCGTGAAGTCAGTGCCAGTGAGCGCTG		LGECLKELEESHDQHAVLVLQ

				GCGGTGAGGGGGAAACCTCTCCATACAGCC TCGAGGCCTCTCCACTGGGGCAGCTCATGAA CATGTTGTCACACCCAGTCATCCGCCGGAGC TCTCTCTTAACTGAGAAACTCCTCAGACTCCT TTCTCTCATCTCAATTGCTCTCCCAGAAAACA AGGTGTCAGAAGCACAGGCTAATTCTGGCAG CGGTGCTTCCTCCACCACCACTGCCACCTCA ACCACATCTACCACCACCACCACTGCCGCCT CCACCACGCCCACACCCCCTACTGCACCCAC CCCTGTCACTTCTGCTCCAGCCCTGGTTGCT GCCACGGCTATTTCCACCATTGTCGTAGCTG CTTCGACCACAGTGACTACCCCCACGACTGC TACCACTACTGTTTCAATTTCTCCCACTACTA AGGGCAGCAAATCTCCAGCGAAGGTGAGTG ATGGGGGCAGCAGCAGTACAGACTTTAAGAT GGTGTCCTCTGGCCTCACTGAAAACCAGCTA CAGCTCTCTGTAGAGGTGTTGACATCCCACT CTTGTTCTGAGGAAGGCTTAGAGGATGCAGC CAACGTACTACTGCAGCTCTCCCGGGGGGA CTCTGGGACCCGGGACACTGTTCTCAAGCTG CTACTGAATGGAGCCCGCCATCTGGGTTATA CCCTTTGTAAACAAATAGGTACCCTGCTGGC CGAGCTGCGGGAATACAACCTCGAGCAGCA GCGGCGAGCCCAATGTGAAACCCTCTCTCCT GATGGCCTGCCTGAGGAGCAGCCACAGACC ACCAAGCTGAAGGGCAAAATGCAGAGCAGGT TTGACATGGCTGAGAATGTGGTAATTGTGGC ATCTCAGAAGCGACCTTTGGGTGGCCGGGA GCTCCAGCTGCCTTCTATGTCCATGTTGACAT CCAAGACATCTACCCAGAAGTTCTTCTTGAG GGTACTACAGGTCATCATCCAGCTCCGGGAC GACACGCGCCGGGCTAACAAGAAAGCCAAG CAGACAGGCAGGCTAGGTTCCTCCGGTTTAG GCTCAGCTAGCAGCATCCAGGCAGCTGTTCG GCAGCTGGAGGCTGAGGCTGATGCCATTATA CAAATGGTACGTGAGGGTCAAAGGGCGCGG		PAVEAFFLVHATERESKPPVR DTRESQLAHIKDEPPPLSPAPL TPATPSSLDPFFSREPSSMHIS SSLPPDTQKFLRFAETHRTVL NQILRQSTTHLADGPFAVLVD YIRVLDFDVKRKYFRQELERL DEGLRKEDMAVHVRRDHVFE DSYRELHRKSPEEMKNRLYIV FEGEEGQDAGGLLREWYMIIS REMFNPMYALFRTSPGDRVT YTINPSSHCNPNHLSYFKFVG RIVAKAVYDNRLLECYFTRSFY KHILGKSVRYTDMESEDYHFY QGLVYLLENDVSTLGYDLTFS TEVQEFGVCEVRDLKPNGANI LVTEENKKEYVHLVCQMRMT GAIRKQLAAFLEGFYEIIPKRLI SIFTEQELELLISGLPTIDIDDLK SNTEYHKYQSNSIQIQWFWRA LRSFDQADRAKFLQFVTGTSK VPLQGFAALEGMNGIQKFQIH RDDRSTDRLPSAHTCFNQLDL PAYESFEKSATCYCWLSRSAL KALGWPNKALPNSVGFFLPLL DLGRGELKKEPERNCQKPINE IHQLTVCVPAAPSSPAHTCSS SHSLPAACFLTFSPLSMPSMIP TPCVLKRQ*

				AGACAGCAACAAGCAGCAACGTCGGAGTCTA GCCAGTCAGAGGCGTCTGTCCGGAGGGAGG AATCACCCATGGATGTGGACCAGCCATCTCC CAGTGCTCAAGATACTCAATCCATTGCCTCC GATGGAACCCCACAGGGGGAGAAGGAAAAG GAAGAAAGACCACCTGAGTTACCCCTGCTCA GCGAGCAGCTGAGTTTGGACGAGCTGTGGG ACATGCTTGGGGAGTGTCTAAAGGAACTAGA GGAATCCCATGACCAGCATGCGGTGCTAGTG CTACAGCCTGCTGTCGAGGCCTTCTTTCTGG TCCATGCCACAGAGCGGGAGAGCAAGCCTC CTGTCCGAGACACCCGTGAGAGCCAGCTGG CACACATCAAGGACGAGCCTCCTCCACTCTC CCCTGCCCCCTTAACCCCAGCCACGCCTTCC TCCCTTGACCCATTCTTCTCCCGGGAGCCCT CATCTATGCACATCTCCTCAAGCCTGCCCCC TGACACACAGAAGTTCCTTCGCTTTGCAGAG ACTCACCGCACTGTGTTAAACCAGATCCTAC GGCAGTCCACGACCCACCTTGCTGATGGGC CTTTTGCTGTCCTGGTAGACTACATTCGTGTC CTCGACTTTGATGTCAAGCGCAAATATTTCCG CCAAGAGCTGGAGCGTTTAGATGAGGGGCT CCGGAAAGAAGACATGGCTGTGCATGTCCGT CGTGACCATGTGTTTGAAGACTCCTATCGTG AGCTGCATCGCAAATCCCCCGAAGAAATGAA GAATCGATTGTATATAGTATTTGAAGGAGAAG AAGGGCAGGATGCTGGCGGGCTCCTGCGGG AGTGGTATATGATCATCTCTCGAGAGATGTTT AACCCTATGTATGCCTTGTTCCGTACCTCACC TGGTGATCGAGTCACCTACACCATCAATCCA TCTTCCCACTGCAACCCCAACCACCTCAGCT ACTTCAAGTTTGTCGGACGCATTGTGGCCAA AGCTGTATATGACAACCGTCTTCTGGAGTGC TACTTTACTCGATCCTTTTACAAACACATCTT GGGCAAGTCAGTCAGATATACAGATATGGAG AGTGAAGATTACCACTTCTACCAAGGTCTGG		

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				TTTATCTGCTGGAAAATGATGTCTCCACACTA GGCTATGACCTCACCTTCAGCACTGAGGTCC AAGAGTTTGGAGTTTGTGAAGTTCGTGACCT CAAACCCAATGGGGCCAACATCTTGGTAACA GAGGAGAATAAGAAGGAGTATGTACACCTGG TATGCCAGATGAGAATGACAGGAGCCATCCG CAAGCAGTTGGCGGCTTTCTTAGAAGGCTTC TATGAGATCATTCCAAAGCGCCTCATTTCCAT CTTCACTGAGCAGGAGTTAGAGCTGCTTATA TCAGGACTGCCCACCATTGACATCGATGATC TGAAATCCAACACTGAATACCACAAGTACCA GTCCAACTCTATTCAGATCCAGTGGTTCTGG AGAGCATTGCGTTCTTTCGATCAAGCTGACC GTGCCAAGTTCCTCCAGTTTGTCACGGGTAC TTCCAAGGTACCCCTGCAAGGCTTTGCTGCC CTCGAAGGCATGAATGGCATTCAGAAGTTTC AGATCCATCGAGATGACAGGTCCACAGATCG CCTGCCTTCAGCTCACACATGTTTTAATCAGC TGGATCTGCCTGCCTATGAGAGCTTTGAGAA GTCCGCCACATGCTACTGTTGGCTATCCAGG AGTGCTCTGAAGGCTTTGGGCTGGCCTAATA AGGCCCTGCCCAACTCCGTGGGGTTTTTTTT ACCATTGTTGGACCTGGGGAGGGGGGAGTT AAAAAAAGAACCAGAAAGAAATTGTCAAAAAC CAATAAATGAAATCCACCAACTCACCGTGTGT GTCCCAGCTGCCCCATCTTCCCCAGCGCATA CCTGTTCCTCTTCTCATTCTCTCCCCGCCGC CTGTTTCCTCACCTTCTCTCCCCTTTCCATGC CGTCCATGATCCCCACCCCATGTGTTTTAAAA AGGCAGTAG		
Shigella ospC1	3	prey4411	85	CCGCAAATGTTCCCAGCACAATCGGCTGCGG GAATTTTTCTGCCCCGAGCACAGCGAGTGCA TCTGCCACATCTGCCTGGTGGAGCATAAGAC CTGCTCTCCCGCGTCCCTGAGCCAGGCCAG CGCCGACCTGGAGGCCACCCTGAGGCACAA	286	RKCSQHNRLREFFCPEHSECI CHICLVEHKTCSPASLSQASA DLEATLRHKLTVMYSQINGAS RALDDVRNRQQDVRMTANRK VEQLQQEYTEMKALLDASETT

				ACTAACTGTCATGTACAGTCAGATCAACGGG		STRKIKEEEKRVNSKFDTIYQIL
				GCGTCGAGAGCACTGGATGATGTGAGAAACA		LKKKSEIQTLKEEIEQSLTKRD
				GGCAGCAGGATGTGCGGATGACTGCAAACA		EFEFLEKASKLRGISTKPVYIP
				GAAAGGTGGAGCAGCTACAACAAGAATACAC		EVELNHKLIKGIHQSTIDLKNEL
				GGAAATGAAGGCTCTCTTGGACGCCTCAGAG		KQCIGRLQELTPSSGDPGEHD
				ACCACCTCGACAAGGAAGATAAAGGAAGAGG		PASTHKSTRPVKKVSKEEKKS
				AGAAGAGGGTCAACAGCAAGTTTGACACCAT		KKPPPVPALPSKLPTFGAPEQ
				TTATCAGATTCTCCTCAAGAAGAAGAGTGAGA		LVDLKQAGLEAAAKATSSHPN
				TCCAGACCTTGAAGGAGGAGATTGAACAGAG		STSLKAKVLETFLAKSRPELLE
				CCTGACCAAGAGGGATGAGTTCGAGTTTCTG		YYIKVILDYNTAHNKVALSECY
				GAGAAAGCATCAAAACTGCGAGGAATCTCAA		TVASVAEMPQNYRPHPQRFT
				CAAAGCCAGTCTACATCCCCGAGGTGGAACT		YCSQVLGLHCYKKGIHYWEVE
				GAACCACAAGCTGATAAAAGGCATCCACCAG		LQKNNFCGVGICYGSMNRQG
				AGCACCATAGACCTCAAAAACGAGCTGAAGC		PESRLGRNSASWCVEWFNTK
				AGTGCATCGGGCGGCTCCAGGAGCTCACCC		ISAWHNNVEKTLPSTKATRVG
				CCAGTTCAGGTGACCCTGGAGAGCATGACCC		VLLNCDHGFVIFFAVADKVHL
				AGCGTCCACACACAAATCCACACGCCCTGTG		MYKFRVDFTEALYPAFWVFSA
				AAGAAGGTCTCCAAAGAGGAAAAGAAATCCA		GATLSICSPK*
				AGAAACCTCCCCCTGTCCCTGCCTTACCCAG		
				CAAGCTTCCCACGTTTGGAGCCCCGGAACAG		
				TTAGTGGATTTAAAACAAGCTGGCTTGGAGG		
				CTGCAGCCAAAGCCACCAGCTCACATCCGAA		
				CTCAACATCTCTCAAGGCCAAGGTGCTGGAG		
				ACCTTCCTGGCCAAGTCCAGACCTGAGCTCC		
				TGGAGTATTACATTAAAGTCATCCTGGACTAC		
				AACACCGCCCACAACAAAGTGGCTCTGTCAG		
				AGTGCTATACAGTAGCTTCTGTGGCTGAGAT		
				GCCTCAGAACTACCGGCCGCATCCCCAGAG		
				GTTCACATACTGCTCTCAGGTGCTGGGCCTG		
				CACTGCTACAAGAAGGGGATCCACTACTGGG		
				AGGTGGAGCTGCAGAAGAACAACTTCTGTGG		
				GGTAGGCATCTGCTACGGAAGCATGAACCG		
				GCAGGGCCCAGAAAGCAGGCTCGGCCGCAA		
				CAGCGCCTCCTGGTGCGTGGAGTGGTTCAA		
				CACCAAGATCTCTGCCTGGCACAATAACGTG		
				GAGAAAACCCTGCCCTCCACCAAGGCCACG		

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				CGGGTGGGCGTGCTTCTCAACTGTGACCAC GGCTTTGTCATCTTCTTCGCTGTTGCCGACAA GGTCCACCTGATGTATAAGTTCAGGGTGGAC TTTACTGAGGCTTTGTACCCGGCTTTCTGGG TATTTTCTGCTGGTGCCACACTCTCCATCTGC TCCCCCAAGTAG		
Shigella ospC1	3	prey2686	86	ATGGAGCAGCTGGCCGACGTGACGCTGCGA AGGCTGCTGGATAATGAGGTCTTTGACCTCG ACCCCGATCTGCAGGAGCCGAGCCAGATCA CCAAGAGGGACCTGGAAGCCAGAGCACAGA ATGAGTTCTTCCGGGCTTTCTTCAGGTTGCC GAGGAAGGAGAAGCTGCACGCGGTTGTGGA CTGTTCGCTCTGGACGCCGTTCAGTCGCTGT CACACCGCGGGGCGGATGTTCGCCTCTGAC AGCTACATCTGCTTTGCCAGCAGAGAAGATG GCTGCTGTAAGATCATCCTGCCACTCAGAGA GGTGGTGAGCATCGAGAAGATGGAGGACAC GAGCCTGCTGCCGCATCCCATCATTGTCAGT ATCAGAAGCAAGGTGGCCTTCCAGTTCATTG AGCTCCGGGACCGAGACAGCCTGGTGGAGG CGCTGCTTGCGAGGTTGAAGCAGGTCCACG CCAACCACCCCGTGCACTACGACACCTCTGC GGATGATGACATGGCTTCACTCGTGTTTCATT CAACAAGCATGTGCAGTGACCACAGATTTGG GGATCTTGAAATGATGTCTTCTCAAAATAGCG AGGAGAGTGAGAAAGAGAAGAGCCCGCTGA TGCACCCCGATGCCCTGGTCACCGCCTTCCA GCAGTCAGGCAGCCAGAGCCCTGACTCCCG AATGTCCAGAGAACAGATAAAAATAAGCCTGT GGAATGACCACTTTGTGGAATACGGCAGAAC CGTGTGTATGTTTCGCACAGAGAAGATTCGG AAGCTCGTAGCCATGGGCATCCCTGAATCTT TGCGAGGGAGACTCTGGCTTCTCTTCTCAGA TGCGGTGACGGATCTTGCCTCACACCCTGGT TACTACGGGAATCTGGTGGAGGAGTCCCTGG	287	MEQLADVTLRRLLDNEVFDLD PDLQEPSQITKRDLEARAQNE FFRAFFRLPRKEKLHAVVDCS LWTPFSRCHTAGRMFASDSYI CFASREDGCCKIILPLREVVSI EKMEDTSLLPHPIIVSIRSKVAF QFIELRDRDSLVEALLARLKQV HANHPVHYDTSADDDMASLV FHSTSMCSDHRFGDLEMMSS QNSEESEKEKSPLMHPDALVT AFQQSGSQSPDSRMSREQIKI SLWNDHFVEYGRTVCMFRTE KIRKLVAMGIPESLRGRLWLLF SDAVTDLASHPGYYGNLVEES LGKCCLVTEEIERDLHRSLPEH PAFQNETGIAALRRVLTAYAH RNPKIGYCQSMNILTSVLLLYT KEEEAFWLLVAVCERMLPDYF NHRVIGAQVDQSVFEELIKGH LPELAEHMNDLSALASVSLSW FLTLFLSIMPLESAVNVVDCFF YDGIKAIFQLGLAVLEANAEDL CSSKDDGQALMILSRFLDHIKN EDSPGPPVGSHHAFFSDDQE PYPVTDISDLIRDSYEKFGDQS VEQIEHLRYKHRIRVLQGHED TTKQNVLRVVIPEVSILPEDLE ELYDLFKREHMMSCYWEQPR PMASRHDPSRPYAEQYRIDAR

				GGAAATGCTGCCTGGTAACCGAGGAGATAGA ACGAGACCTGCACCGCTCCCTGCCAGAGCA CCCCGCCTTCCAGAACGAAACGGGAATTGCT GCTTTGAGGAGAGTCTTGACGGCCTATGCCC ACCGGAACCCCAAGATTGGATACTGCCAGTC CATGAACATCCTGACCTCCGTGCTGCTGCTG TACACCAAGGAGGAGGAAGCCTTCTGGCTGT TGGTTGCTGTGTGTGAGCGGATGCTGCCCGA TTACTTCAACCACCGAGTGATCGGGGCACAA GTTGACCAGTCTGTCTTCGAGGAGCTCATCA AGGGTCATCTCCCAGAGCTGGCAGAGCACAT GAACGACCTCTCAGCCCTGGCGTCTGTCTCT CTCTCGTGGTTCCTGACCCTGTTCCTCAGCA TCATGCCTCTAGAGAGTGCGGTGAATGTGGT AGACTGCTTCTTCTATGATGGCATCAAAGCCA TCTTCCAGCTGGGACTGGCTGTGCTTGAGGC CAATGCTGAGGACCTGTGCAGCAGCAAGGAT GATGGCCAGGCCTTGATGATCCTCAGCAGGT TTCTAGATCACATTAAGAATGAGGACAGCCC AGGGCCCCCAGTTGGCAGCCACCATGCCTTT TTCTCCGACGACCAGGAGCCCTACCCTGTGA CTGATATTTCGGACCTGATCCGGGATTCCTAT GAGAAATTTGGAGACCAGTCTGTGGAGCAGA TCGAGCACCTACGTTACAAGCACAGGATCAG GGTCCTCCAAGGCCACGAGGACACCACAAA GCAGAACGTGCTTCGAGTCGTTATCCCGGAA GTCTCAATTCTTCCTGAAGACCTAGAGGAGC TCTACGACTTATTCAAGAGAGAACATATGATG AGCTGTTACTGGGAGCAGCCCAGGCCCATG GCCTCACGCCACGACCCCAGCCGGCCCTAT GCTGAGCAGTACCGCATAGACGCCCGGCAG TTTGCACACCTGTTTCAGCTAGTCTCGCCCT GGACCTGCGGGGCCCACACGGAGATCCTCG CCGAAAGGACGTTCAGGCTCTTGGATGACAA CATGGACCAGCTCATCGAGTTCAAAGCGTTT GTGAGCTGCCTCGATATTATGTATAATGGAG		QFAHLFQLVSPWTCGAHTEIL AERTFRLLDDNMDQLIEFKAF VSCLDIMYNGEMNEKIKLLYRL HIPPALTENDRDSQSPLRNPLL STSRPLVFGKPNGDAVDYQK QLKQMIKDLAKEKDKTEKELP KMSQREFIQFCKTLYSMFHED PEENDLYQAIATVTTLLLQIGE VGQRGSSSGSCSQECGEELR ASAPSPEDSVFADTGKTPQDS QALPEAAERDWTVSLEHILAS LLTEQSLVNFFEKPLDMKSKL ENAKINQYNLKTFEMSHQSQS ELKLSNL*

				AAATGAATGAGAAGATTAAACTATTATACAGG CTTCATATCCCTCCAGCACTCACTGAAAATGA CCGAGACAGCCAGTCGCCGTTGAGGAATCCT CTGTTGTCAACATCGAGACCCCTGGTTTTCG GGAAACCCAATGGTGATGCAGTTGATTATCA GAAACAGCTGAAGCAGATGATTAAGGATTTA GCCAAAGAAAAAGATAAAACTGAGAAAGAATT GCCCAAAATGAGCCAGAGAGAATTTATCCAG TTCTGTAAAACTCTGTACAGTATGTTCCATGA AGATCCAGAAGAAAATGATTTGTATCAAGCCA TCGCCACAGTCACCACACTGCTGCTGCAGAT CGGGGAGGTGGGGCAGCGAGGCAGCAGCT CTGGAAGCTGCTCCCAGGAGTGTGGGGAGG AGCTGCGGGCTTCAGCTCCTTCTCCTGAGGA CTCGGTTTTTGCAGACACTGGGAAGACGCCC CAGGACTCCCAGGCACTTCCAGAGGCGGCA GAAAGGGACTGGACTGTCTCCCTTGAACATA TTTTAGCTTCACTTCTGACTGAACAGTCATTA GTCAACTTTTTTGAAAAGCCACTGGACATGAA ATCCAAACTTGAAAATGCCAAGATCAATCAGT ACAATCTCAAAACTTTTGAAATGAGCCACCAA TCACAATCTGAACTTAAGCTGAGTAACTTGTA G		
Shigella ospC1	3	prey67368	87	TCTCCCAGACCCTCTGCAGGAACCGTACTAC CAGCCACCCTACACGCTCGTTTTGGAGCTCA CCGGCGTCCTCTTGCATCCTGAGTGGTCGCT GGCCACTGGCTGGAGGTTTAAGAAGCGCCC AGGCATCGAGACCTTGTTCCAGCAGCTTGCC CCTTTATATGAAATTGTCATCTTTACGTCAGA GACTGGCATGACTGCGTTTCCACTCATTGAT AGTGTGGACCCCCATGGCTTCATCTCCTACC GCCTATTCCGGGACGCCACAAGATACATGGA TGGACACCATGTAAAGGATATTTCATGTCTGA ATCGGGACCCAGCTCGAGTAGTAGTTGTGGA CTGCAAGAAGGAAGCCTTCCGCCTGCAGCC	288	LPDPLQEPYYQPPYTLVLELT GVLLHPEWSLATGWRFKKRP GIETLFQQLAPLYEIVIFTSETG MTAFPLIDSVDPHGFISYRLFR DATRYMDGHHVKDISCLNRDP ARVVVVDCKKEAFRLQPYNG VALRPWDGNSDDRVLLDLSAF LKTIALNGVEDVRTVLEHYALE DDPLAAFKQRQSRLEQEEQQ RLAELSKSNKQNLFLGSLTSR LWPRSKQP*

				CTATAACGGCGTTGCCCTGCGGCCCTGGGA CGGCAACTCTGATGACCGGGTCTTGTTGGAT CTGTCTGCCTTCCTCAAGACCATTGCACTGA ATGGTGTGGAGGACGTGCGAACCGTGCTGG AGCACTATGCCCTGGAGGATGACCCGCTGG CGGCTTTCAAACAGCGGCAAAGCCGGCTAGA GCAGGAGGAGCAGCAGCGCCTGGCCGAGCT CTCCAAGTCCAACAAGCAGAACCTCTTCCTT GGCTCCCTCACCAGCCGCTTGTGGCCTCGCT CCAAACAGCCCTGA		
Shigella ospC1	3	prey67371	88	TGGGGGGTGGGGATGGGGTTTGTTTNTNNN NCTTNTTTTTNTTNNNNTNCNNATTGGNNTTT NNTTTNTTTNCTACTATGGACNTGANTGATTT TTTTTTTTCTTATNTTTNACTTGNNTNCTGTGG GNGAAGGNTGNAAANTATTTTATNTGNNTTAN TCAATTTTTCNCATTAGCCGANANTCNNTATC CTGATACTACTTCATTNGATGACNTATTNGNC TTATANTCNTTTNGAAGCNTGATTANGATTTA TAANCTNNTTTTNCATNCGGATCCANTCNTN	289	WGVGMGFVXXXXFXXXXXWX XXXXLLWT*XIFFFLXFXLXXV GEGXKXFYXXXSIFXISRXSXS *YYFIX*XIXLIXXXKXDXDL*XX FXXGSXX
Shigella ospC1	3	prey4005	89	CTCACACAACTCTTTGAGAGGAGCTCGTCCT CAGGACCCCTCTGAGGAAGGTCCCGGTGATT TTGGCTTCCTGCATGCCAGTAGTAGCATCGA GTCCGAGGCAAAACCAGCCCAGCCTCAGCC CACTGGTGAAAAGGAACAAGATAAATCAAAA ACTCTTTCCCTTGAGGAGGCTGTGACTTCCA TTCAGCAGCTCTTCCAGCTCAGTGTTTCCATC GCTTTCAACTTCCTGGGAACAGAGAACATGA AGAGTGGCGACCACACGGCAGCCTTTTCTTA CTTCCAGAAAGCTGCAGCCCGCGGCTACAG CAAAGCGCAGTACAATGCGGGCTTGTGTCAT GAGCATGGCAGAGGCACCCCCAGGGACATT AGCAAGGCGGTCCTTTATTATCAGTTGGCTG CCAGCCAGGGCCACAGCCTGGCTCAGTACC GCTATGCCAGGTGCCTACTACGAGACCCAGC CTCTTCGTGGAACCCTGAGCGGCAGAGGGC	290	SHNSLRGARPQDPSEEGPGD FGFLHASSSIESEAKPAQPQP TGEKEQDKSKTLSLEEAVTSIQ QLFQLSVSIAFNFLGTENMKS GDHTAAFSYFQKAAARGYSK AQYNAGLCHEHGRGTPRDISK AVLYYQLAASQGHSLAQYRYA RCLLRDPASSWNPERQRAVS LLKQAADSGLREAQAFLGVLF TKEPYLDEQRAVKYLWLAANN GDSQSRYHLGICYEKGLGVQ RNLGEALRCYQQSAALGNEA AQERLRALFSMGAAAPGPSDL TVTGLKSFSSPSLCSLNTLLAG TSRLPHASSTGNLGLLCRSGH LGASLEASSRAIPPHPYPLERS

				AGTGTCCTTGCTGAAGCAGGCTGCAGACTCA GGCTTGAGAGAGGCCCAAGCTTTCCTCGGG GTGCTTTTCACCAAGGAGCCCTACCTGGATG AGCAGAGAGCTGTGAAATATCTTTGGCTTGC AGCCAACAATGGGGACTCACAGAGCAGGTAC CACCTTGGAATTTGCTATGAGAAAGGCCTTG GTGTGCAGAGGAATCTGGGAGAGGCCTTGA GATGTTACCAGCAGTCAGCCGCTCTGGGAAA TGAGGCCGCCCAGGAGAGGCTGCGAGCCCT CTTTTCCATGGGGGCTGCAGCCCCGGGGCC CAGCGACCTGACAGTTACAGGACTGAAGTCT TTCTCCAGCCCCTCCCTCTGCAGCTTGAACA CCCTGCTAGCAGGAACCTCACGCCTACCACA TGCCTCGAGCACAGGCAACCTTGGCCTCCTC TGCAGAAGTGGGCATCTCGGAGCCAGCCTG GAAGCCTCCAGCAGGGCTATTCCCCCACACC CCTACCCACTGGAAAGGAGTGTTGTAAGACT AGGTTTTGGCTAA		VVRLGFG*
Shigella ospC1	3	prey67380	90	NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNGTCACTATGTATCTTCT TTTAAATGTAAGTTTTGTGTTTTATAATTTTTC ACATCTACTGAATTAAATCTGAACAGTGACTT TGTGCAAAATAAATTTTGCTGTCCATTCTTGC CAAAAAGTCCTGAATGTCCAGGATGATTTCTC CAGGACATCTCTATTGCTCCCAAGTTTCAAAC AGTTTTTTGGGAGCCAAAACCTCAGGATTTAC CCTANATCTGGTTAACATTTTGAAAANATACA NG	291	XXXXXXXXXXXXXXXSLCIFF* M*VLCFIIFHIY*IKSEQ*LCAK*IL LSILAKKS*MSRMISPGHLYCS QVSNSFLGAKTSGFTLXLVNIL KXYX
Shigella ospC1	3	prey3296	91	GGACCCTGTCTCAGTGGACACGGCCCGACT GGAACACCTCTTTGAGTCTCGTGCCAAAGAG GTGCTGCCCTCCAAGAAAGCTGGAGAGGGC CGCCGGACAATGACCACAGTGCTGGACCCC AAGCGCACGAACGCCATCAACATCGGCCTAA CCACACTGCCACCTGTGCATGTCATTAAGGC TGCTCTGCTCAACTTTGATGAGTTTGCTGTCA	292	DPVSVDTARLEHLFESRAKEV LPSKKAGEGRRTMTTVLDPKR TNAINIGLTTLPPVHVIKAALLN FDEFAVSKDGIEKLLTMMPTE EERQKIEGAQLANPDIPLGPAE NFLMTLASIGGLAARLQLWAF KLDYDSMEREIAEPLFDLKVG

				GCAAGGATGGCATTGAGAAGCTACTGACCAT GATGCCCACGGAGGAAGAGCGGCAGAAGAT TGAGGGAGCCCAGCTGGCCAACCCTGACAT ACCCCTGGGCCCAGCCGAGAACTTCCTGATG ACTCTTGCCTCCATTGGCGGCCTCGCTGCTC GTCTACAACTCTGGGCCTTCAAGCTGGACTA TGACAGCATGGAGCGGGAAATTGCTGAGCCA CTGTTTGACCTGAAAGTGGGTATGGAACAGC TGGTACAGAATGCCACCTTCCGCTGCATCCT GGCTACCCTCCTAGCTGTGGGCAACTTCCTC AATGGCTCCCAGAGCAGCGGCTTTGAGCTGA GCTACCTGGAGAAGGTGTCAGATGTGAAGGA CACGGTGCGTCGACAGTCACTGCTACACCAT CTCTGCTCCCTAGTGCTCCAGACCCGGCCTG AGTCCTCTGACCTCTATTCAGAAATCCCTGCC CTGACCCGCTGTGCCAAGGTGGACTTTGAAC AGCTGACTGAGAACCTGGGGCAGCTGGAGC GCCGGAGCCGGGCAGCCGAGGAAAGCCTGC GGAGCTTGGCCAAGCATGAGCTGGCCCCAG CCCTGCGTGCCCGCCTCACCCACTTCCTGGA CCAGTGTGCCCGCCGTGTTGCCATGCTAAGG ATAGTGCACCGCCGTGTCTGCAATAGGTTCC ATGCCTTCCTGCTCTACCTGGGCTACACCCC GCAGGCGGCCCGTGAAGTGCGCATCATGCA GTTCTGCCACACGCTGCGGGAATTTGCGCTT GAGTATCGGACTTGCCGGGAACGAGTGCTAC AGCAGCAGCAGAAGCAGGCCACATACCGTG AGCGCAACAAGACCCGGGGACGCATGATCA CCGAGACAGAGAAGTTCTCAGGTGTGGCTG GGGAAGCCCCCAGCAACCCCTCTGTCCCAG TAGCAGTGAGCAGCGGGCCAGGCCGGGGAG ATGCTGACAGTCATGCTAGTATGAAGAGTCT GCTGACCAGCAGGCTTGAGGACACCACACA CAATCGCCGCAGCAGAGGCATGGTCCAGAG CAGCTCCCCAATCATGCCCACAGTGGGGCC CTCCACTGCATCCCCAGAAGAACCCCCAGGC		MEQLVQNATFRCILATLLAVG NFLNGSQSSGFELSYLEKVSD VKDTVRRQSLLHHLCSLVLQT RPESSDLYSEIPALTRCAKVDF EQLTENLGQLERRSRAAEESL RSLAKHELAPALRARLTHFLD QCARRVAMLRIVHRRVCNRF HAFLLYLGYTPQAAREVRIMQ FCHTLREFALEYRTCRERVLQ QQQKQATYRERNKTRGRMIT ETEKFSGVAGEAPSNPSVPVA VSSGPGRGDADSHASMKSLL TSRLEDTTHNRRSRGMVQSS SPIMPTVGPSTASPEEPPGSS LPSDTSDEIMDLLVQSVTKSSP RALAARERKRSRGNRKSLRR TLKSGLGDDLVQALGLSKGPG LEV*

				TCCAGTTTACCCAGTGATACATCAGATGAGAT CATGGACCTTCTGGTGCAGTCAGTGACCAAG AGCAGTCCTCGTGCCTTAGCTGCTAGGGAAC GCAAGCGTTCCCGCGGCAACCGCAAGTCTTT GAGAAGGACGTTGAAGAGTGGGCTCGGAGA TGACCTGGTGCAGGCACTGGGACTAAGCAA GGGTCCTGGCCTGGAGGTGTGA		
Shigella ospC1	3	prey2108	92	GCAGGAAGCTCAGAGTATCGATGAAATCTAC AAATACGACAAGAAACAGCAGCAAGAAATCC TGGCGGCGAAGCCCTGGACTAAGGATCACC ATTACTTTAAGTACTGCAAAATCTCAGCATTG GCTCTGCTGAAGATGGTGATGCATGCCAGAT CGGGAGGCAACTTGGAAGTGATGGGTCTGAT GCTAGGAAAGGTGGATGGTGAAACCATGATC ATTATGGACAGTTTTGCTTTGCCTGTGGAGG GCACTGAAACCCGAGTAAATGCTCAGGCTGC TGCATATGAATACATGGCTGCATACATAGAAA ATGCAAAACAGGTTGGCCGCCTTGAAAATGC AATCGGGTGGTATCATAGCCACCCTGGCTAT GGCTGCTGGCTTTCTGGGATTGATGTTAGTA CTCAGATGCTCAATCAGCAGTTCCAGGAACC ATTTGTAGCAGTGGTGATTGATCCAACAAGAA CAATATCCGCAGGGAAAGTGAATCTTGGCGC CTTTAGGACATACCCAAAGGGCTACAAACCT CCTGATGAAGGACCTTCTGAGTACCAGACTA TTCCACTTAATAAAATAGAAGATTTTGGTGTA CACTGCAAACAATATTATGCCTTAGAAGTCTC ATATTTCAAATCCTCTTTGGATCGCAAATTGC TTGAGCTGTTGTGGAATAAATACTGGGTGAAT ACGTTGAGTTCTTCTAGCTTGCTTACTAATGC AGACTATACCACTGGTCAGGTCTTTGATTTGT CTGAAAAGTTAGAGCAGTCAGAAGCCCAGCT GGGACGAGGGAGTTTCATGTTGGGTTTAGAA ACGCATGACCGAAAATCAGAAGACAAACTTG CCAAAGCTACAAGAGACAGCTGTAAAACTAC	293	QEAQSIDEIYKYDKKQQQEILA AKPWTKDHHYFKYCKISALAL LKMVMHARSGGNLEVMGLML GKVDGETMIIMDSFALPVEGT ETRVNAQAAAYEYMAAYIENA KQVGRLENAIGWYHSHPGYG CWLSGIDVSTQMLNQQFQEP FVAVVIDPTRTISAGKVNLGAF RTYPKGYKPPDEGPSEYQTIP LNKIEDFGVHCKQYYALEVSY FKSSLDRKLLELLWNKYWVNT LSSSSLLTNADYTTGQVFDLS EKLEQSEAQLGRGSFMLGLET HDRKSEDKLAKATRDSCKTTI EAIHGLMSQVIKDKLFNQINIS*

				CATAGAAGCTATCCATGGATTGATGTCTCAG GTTATTAAGGATAAACTGTTTAATCAAATTAAC ATCTCTTAA		
Shigella ospC1	3	prey67403	93	TTGGGGCATCTTGGCAGGAGCTTTGGATTTC TTTAGGGAAATGGCAATCAGATGGGGCAGAG TGTTTTTTGCTGAGGGAATCAGAATGATCCCT CAAACAGCACCTTTGATCTCTATTCTCTGCTA AAGATGGTGCTTCCTCTACTTCCCCAGACCC CCGTGTCTGTTCCATTTCCATGAATTTTTCAT CAGGGTCACAGGACAAAGGTTTTAGTCTTTG GTTCTAATGAGACCTCTGACTTGGCTCTGGA TGACTATGAAACTAGTGAATGCATTTGTCTTT TCTGGAATCCN	294	LGHLGRSFGFL*GNGNQMGQ SVFC*GNQNDPSNSTFDLYSL LKMVLPLLPQTPVSVPFP*IFH QGHRTKVLVFGSNETSDLALD DYETSECICLFWNP
Shigella ospC1	3	prey67405	94	GCTAATATGGTAGCTATTGATAGCTTACTATG TATCAGATCCNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNTGAGTAG CTAGGACTACAGTGGTGAGCCACCATGCCCA GCTAATTTTTTTTTTTTTTTNNNNAAAAAGGGN NTTNNTTNTTNTNGCCCNGGNNGGTNTNAAN CTCNTNNCCTNANGGNATTNNCCCNCCTNGN CCNCCAAANGGGCNGGANTT	295	ANMVAIDSLLCIRSXXXXXXXX XXXXXXXXXXXXXXXXXXXX XXXXXXE*LGLQW*ATMPS*FF FFFXXKGXXXXXPXXVXXSXP XGIXPPXPPXGXX
Shigella ospC1	3	prey14400	95	GGGCGAGAGGACTGAGTGTGCTGAGCCCCC CCGGGACGAACCCCCGGCTGATGGAGCTCT GAAGCGGGCAGAGGAGCTCAAGACTCAGGC CAATGACTACTTCAAAGCCAAGGACTACGAG AACGCCATCAAGTTCTACAGCCAGGCCATCG AGCTGAACCCCAGCAATGCCATCTACTATGG CAACCGCAGCCTGGCCTACCTGCGCACTGA GTGCTATGGCTACGCGCTGGGAGACGCCAC GCGGGCCATTGAGCTGGACAAGAAGTACATC AAGGGTTATTACCGCCGGGCTGCCAGCAACA TGGCACTGGGCAAGTTCCGGGCCGCGCTGC GAGACTACGAGACGGTGGTCAAGGTGAAGC	296	GERTECAEPPRDEPPADGAL KRAEELKTQANDYFKAKDYEN AIKFYSQAIELNPSNAIYYGNR SLAYLRTECYGYALGDATRAIE LDKKYIKGYYRRAASNMALGK FRAALRDYETVVKVKPHDKDA KMKYQECNKIVKQKAFERAIA GDEHKRSVVDSLDIESMTIED EYSGPKLEDGKVTISFMKELM QWYKDQKKLHRKCAYQILVQ VKEVLSKLSTLVETTLKETEKIT VCGDTHGQFYDLLNIFELNGL

				CCCATGACAAGGATGCCAAAATGAAATACCA GGAGTGCAACAAGATCGTGAAGCAGAAGGC CTTTGAGCGGGCCATCGCGGGCGACGAGCA CAAGCGCTCCGTGGTGGACTCGCTGGACAT CGAGAGCATGACCATTGAGGATGAGTACAGC GGACCCAAGCTTGAAGACGGCAAAGTGACAA TCAGTTTCATGAAGGAGCTCATGCAGTGGTA CAAGGACCAGAAGAAACTGCACCGGAAATGT GCCTACCAGATTCTGGTACAGGTCAAAGAGG TCCTCTCCAAGCTGAGCACGCTCGTGGAAAC CACACTCAAAGAGACAGAGAAGATTACAGTA TGTGGGGACACCCATGGCCAGTTCTATGACC TCCTCAACATATTCGAGCTCAACGGTTTACCC TCGGAGACCAACCCCTATATATTTAATGGTGA CTTTGTGGACCGAGGCTCCTTCTCTGTAGAA GTGATCCTCACCCTTTTCGGCTTCAAGCTCCT GTACCCAGATCACTTTCACCTCCTTCGAGGC AACCACGAGACAGACAACATGAACCAGATCT ACGGTTTCGAGGGTGAGGTGAAGGCCAAGT ACACAGCCCAGATGTACGAGCTCTTTAGCGA GGTGTTCGAGTGGCTCCCGTTGGCCCAGTG CATCAACGGCAAAGTGCTGATCATGCACGGA GGCCTGTTCAGTGAAGACGGTGTCACCCTGG ATGACATCCGGAAAATTGAGCGGAATCGACA ACCCCCAGATTCAGGGCCCATGTGTGACCTG CTCTGGTCAGATCCACAGCCACAGAACGGGC GCTCGATCAGCAAGCGGGGCGTGAGCTGTC AGTTTGGGCCTGACGTCACCAAGGCCTTCTT GGAAGAGAACAACCTGGACTATATCATCCGC AGCCACGAAGTCAAGGCCGAGGGCTACGAG GTGGCTCACGGAGGCCGCTGTGTCACCGTC TTCTCTGCCCCCAACTACTGCGACCAGATGG GGAACAAAGCCTCCTACATCCACCTCCAGGG CTCTGACCTACGGCCTCAGTTCCACCAGTTC ACAGCAGTGCCTCATCCCAACGTCAAGCCCA TGGCCTATGCCAACACGCTGCTGCAGCTAGG		PSETNPYIFNGDFVDRGSFSV EVILTLFGFKLLYPDHFHLLRG NHETDNMNQIYGFEGEVKAKY TAQMYELFSEVFEWLPLAQCI NGKVLIMHGGLFSEDGVTLDD IRKIERNRQPPDSGPMCDLLW SDPQPQNGRSISKRGVSCQF GPDVTKAFLEENNLDYIIRSHE VKAEGYEVAHGGRCVTVFSA PNYCDQMGNKASYIHLQGSD LRPQFHQFTAVPHPNVKPMA YANTLLQLGMM*

				AATGATGTGA		
Shigella ospC1	3	prey50029	96	CTCACCTCTGAAATTCCACAGCTCAATGACTG GAGGCTCTCTCCCACCCACTCAAGACATTGC CAGGAACGTCTTAAGACCTCAGGAGACCACT TCTTTAGTAAGCAATTTTTTAGATGGATTCTCA CTCTGTCACTCAGGCTGGAGTGCAGTGGCG CGGTCTCTGCTCACTACACCCTCCCTCTCCT GGCTCCTGCCCGTATGTATTTCTCCTTCTCTC CATGCCTGCTCTGTAGGGACCATAGCCTCTG TCCCTGCATACATGTTGGACATCAATCACATC AGTCCACCAAGTAACTTCATCAAGCACCCAT GTACGCCCAGCACAGCGTCCCAAGGGTGCC CCACTTACCCACAGAAGAAGAAAGGCAACTT TGGTAAGAGATCTGACTTCTAGCTCCAGTTCT GTCTCTAGCTAACGTGAGATGCACCCGGTTG AGGGCTGTTTTTTAATTGTTGAAAATGAAGGA CTGAACTTAGATGGTCCAACTGAAATGTTTTA AAATGATATGATTCTACCTTAAAAAGAGAATG AAATTCTGATATATTCACAACACAGGAAACCC TTGAAAACGTTATGCTAAATGAAATAAGGGAG ACATGAAAGGACAAATATATGACTCCACTTAT GTGATGTCCCTCAAATAGACAACCACATAGA GACAGAAAGTAGACAGTGGGTGCTAGGGGTT GCTGGAGGGGCAATGGAGAGTTAGTGTTTAA TGGGTACAGTGTCACAGTGGCTGCTCTGTCT ATGGAGTAGGCACTCTTGGGTCTCTTTACTTC TCTAATAAACTCGCTCACACTTAAAAAGAAAA AGCTCTGGAGATTGATAG	297	LTSEIPQLNDWRLSPTHSRHC QERLKTSGDHFFSKQFFRWIL TLSLRLECSGAVSAHYTLPLLA PARMYFSFSPCLLCRDHSLCP CIHVGHQSHQSTK*LHQAPMY AQHSVPRVPHLPTEEERQLW* EI*LLAPVLSLANVRCTRLRAVF *LLKMKD*T*MVQLKCFKMI*FY LKKRMKF*YIHNTGNP*KRYAK *NKGDMKGQIYDSTYVMSLK* TTT*RQKVDSGC*GLLEGQWR VSV*WVQCHSGCSVYGVGTL GSLYFSNKLAHT*KEKALEID
Shigella ipaD	4	prey67563	97	GCTGTGTTGAGAGGCGATGCAGAAGCAGTG AAGGGCATAGGATCCGGCAAAGTCCTGAAGA GTGGCCCCCAGGATCACGTGTTCATTTACTT CACTGACCATGGATCTACTGGAATACTGGTTT TTCCCAATGAAGATCTTCATGTAAAGGACCTG AATGAGACCATCCATTACATGTACAAACACAA AATGTACCGAAAGATGGTGTTCTACATTGAAG	298	AVLRGDAEAVKGIGSGKVLKS GPQDHVFIYFTDHGSTGILVFP NEDLHVKDLNETIHYMYKHKM YRKMVFYIEACESGSMMNHLP DNINVYATTAANPRESSYACY YDEKRSTYLGDWYSVNWMED SDVEDLTKETLHKQYHLVKSH

				CCTGTGAGTCTGGGTCCATGATGAACCACCT GCCGGATAACATCAATGTTTATGCAACTACTG CTGCCAACCCCAGAGAGTCGTCCTACGCCTG TTACTATGATGAGAAGAGGTCCACGTACCTG GGGGACTGGTACAGCGTCAACTGGATGGAA GACTCGGACGTGGAAGATCTGACTAAAGAGA CCCTGCACAAGCAGTACCACCTGGTAAAATC GCACACCAACACCAGCCACGTCATGCAGTAT GGAAACAAAACAATCTCCACCATGAAAGTGA TGCAGTTTCAGGGTATGAAACGCAAAGCCAG TTCTCCCGTCCCCCTACCTCCAGTCACACAC CTTGACCTCACCCCCAGCCCTGATGTGCCTC TCACCATCATGAAAAGGAAACTGATGAACAC CAATGATCTGGAGGAGTCCAGGCAGCTCACG GAGGAGATCCAGCGGCATCTGGATGCCAGG CACCTCATTGAGAAGTCAGTGCGTAAGATCG TCTCCTTGCTGGCAGCGTCCGAGGCTGAGGT GGAGCAGCTCCTGTCCGAGAGAGCCCCGCT CACGGGGCACAGCTGCTACCCAGAGGCCCT GCTGCACTTCCGGACCCACTGCTTCAACTGG CACTCCCCCACGTACGAGTATGCGTTGAGAC ATTTGTACGTGCTGGTCAACCTTTGTGAGAA GCCGTATCCACTTCACAGGATAAAATTGTCCA TGGACCACGTGTGCCTTGGTCACTACTGA		TNTSHVMQYGNKTISTMKVM QFQGMKRKASSPVPLPPVTHL DLTPSPDVPLTIMKRKLMNTN DLEESRQLTEEIQRHLDARHLI EKSVRKIVSLLAASEAEVEQLL SERAPLTGHSCYPEALLHFRT HCFNWHSPTYEYALRHLYVLV NLCEKPYPLHRIKLSMDHVCL GHY*
Shigella ipaD	4	prey2109	98	GACTAAGGATCACCATTACTTTAAGTACTGCA AAATCTCAGCATTGGCTCTTCTGAAGATGGT GATGCATGCCAGATCGGGAGGCAATTTGGAA GTGATGGGTCTGATGCTAGGAAAGGTGGATG GTGAAACCATGATCATTATGGACAGTTTTGCT TTGCCTGTGGAGGGCACTGAAACCCGAGTAA ATGCTCAGGCTGCTGCATATGAATACATGGC TGCATACATAGAAAATGCAAAACAGGTTGGC CGCCTTGAAAATGCAATCGGGTGGTATCATA GCCACCCTGGCTATGGCTGCTGGCTTTCTGG GATTGATGTTAGTACTCAGATGCTCAATCAGC	299	TKDHHYFKYCKISALALLKMV MHARSGGNLEVMGLMLGKVD GETMIIMDSFALPVEGTETRVN AQAAAYEYMAAYIENAKQVGR LENAIGWYHSHPGYGCWLSGI DVSTQMLNQQFQEPFVAVVID PTRTISAGKVNLGAFRTYPKG YKPPDEGPSEYQTIPLNKIEDF GVHCKQYYALEVSYFKSSLDR KLLELLWNKYWVNTLSSSSLL TNADYTTGQVFDLSEKLEQSE

				AGTTCCAGGAACCATTTGTAGCAGTGGTGAT TGATCCAACAAGAACAATATCCGCAGGGAAA GTGAATCTTGGCGCCTTTAGGACATACCCAA AGGGCTACAAACCTCCTGATGAAGGACCTTC TGAGTACCAGACTATTCCACTTAATAAAATAG AAGATTTTGGTGTACACTGCAAACAATATTAT GCCTTAGAAGTCTCATATTTCAAATCCTCTTT GGATCGCAAATTGCTTGAGCTGTTGTGGAAT AAATACTGGGTGAATACGTTGAGTTCTTCTAG CTTGCTTACTAATGCAGACTATACCACTGGTC AGGTCTTTGATTTGTCTGAAAAGTTAGAGCAG TCAGAAGCCCAGCTGGGACGAGGGAGTTTC ATGTTGGGTTTAGAAACGCATGACCGAAAAT CAGAAGACAAACTTGCCAAAGCTACAAGAGA CAGCTGTAAAACTACCATAGAAGCTATCCATG GATTGATGTCTCAGGTTATTAAGGATAAACTG TTTAATCAAATTAACATCTCTTAA		AQLGRGSFMLGLETHDRKSE DKLAKATRDSCKTTIEAIHGLM SQVIKDKLFNQINIS*
Shigella ipaD	4	prey25185	99	GGGCAATAAGGCCTGTAGCCCATGCTCCTCA CAGTCCTCCAGCAGTGGCATTTGCACAGACT TCTGGGACTTATTGGTAAAACTGGACAACAT GAATGTCAGCCGGAAAGGCAAGAACTCCGTG AAGTCAGTGCCAGTGAGCGCTGGCGGTGAG GGGGAAACCTCTCCATACAGCCTCGAGGCCT CTCCACTGGGGCAGCTCATGAACATGTTGTC ACACCCAGTCATCCGCCGGAGCTCTCTCTTA ACTGAGAAACTCCTCAGACTCCTTTCTCTCAT CTCAATTGCTCTCCCAGAAAACAAGGTGTCA GAAGCACAGGCTAATTCTGGCAGCGGTGCTT CCTCCACCACCACTGCCACCTCAACCACATC TACCACCACCACCACTGCCGCCTCCACCACG CCCACACCCCCTACTGCACCCACCCCTGTCA CTTCTGCTCCAGCCCTGGTTGCTGCCACGGC TATTTCCACCATTGTCGTAGCTGCTTCGACCA CAGTGACTACCCCCACGACTGCTACCACTAC TGTTTCAATTTCTCCCACTACTAAGGGCAGCA	300	GNKACSPCSSQSSSSGICTDF WDLLVKLDNMNVSRKGKNSV KSVPVSAGGEGETSPYSLEAS PLGQLMNMLSHPVIRRSSLLT EKLLRLLSLISIALPENKVSEAQ ANSGSGASSTTTATSTTSTTT TTAASTTPTPPTAPTPVTSAPA LVAATAISTIVVAASTTVTTPTT ATTTVSISPTTKGSKSPAKVSD GGSSSTDFKMVSSGLTENQL QLSVEVLTSHSCSEEGLEDAA NVLLQLSRGDSGTRDTVLKLL LNGARHLGYTLCKQIGTLLAEL REYNLEQQRRAQCETLSPDG LPEEQPQTTKLKGKMQSRFD MAENVVIVASQKRPLGGRELQ LPSMSMLTSKTSTQKFFLRVL QVIIQLRDDTRRANKKAKQTG

				AATCTCCAGCGAAGGTGAGTGATGGGGGCA GCAGCAGTACAGACTTTAAGATGGTGTCCTC TGGCCTCACTGAAAACCAGCTACAGCTCTCT GTAGAGGTGTTGACATCCCACTCTTGTTCTG AGGAAGGCTTAGAGGATGCAGCCAACGTACT ACTGCAGCTCTCCCGGGGGGACTCTGGGAC CCGGGACACTGTTCTCAAGCTGCTACTGAAT GGAGCCCGCCATCTGGGTTATACCCTTTGTA AACAAATAGGTACCCTGCTGGCCGAGCTGCG GGAATACAACCTCGAGCAGCAGCGGCGAGC CCAATGTGAAACCCTCTCTCCTGATGGCCTG CCTGAGGAGCAGCCACAGACCACCAAGCTG AAGGGCAAAATGCAGAGCAGGTTTGACATGG CTGAGAATGTGGTAATTGTGGCATCTCAGAA GCGACCTTTGGGTGGCCGGGAGCTCCAGCT GCCTTCTATGTCCATGTTGACATCCAAGACAT CTACCCAGAAGTTCTTCTTGAGGGTACTACA GGTCATCATCCAGCTCCGGGACGACACGCG CCGGGCTAACAAGAAAGCCAAGCAGACAGG CAGGCTAGGTTCCTCCGGTTTAGGCTCAGCT AGCAGCATCCAGGCAGCTGTTCGGCAGCTG GAGGCTGAGGCTGATGCCATTATACAAATGG TACGTGAGGGTCAAAGGGCGCGGAGACAGC AACAAGCAGCAACGTCGGAGTCTAGCCAGTC AGAGGCGTCTGTCCGGAGGGAGGAATCACC CATGGATGTGGACCAGCCATCTCCCAGTGCT CAAGATACTCAATCCATTGCCTCCGATGGAA CCCCACAGGGGGAGAAGGAAAAGGAAGAAA GACCACCTGAGTTACCCCTGCTCAGCGAGCA GCTGAGTTTGGACGAGCTGTGGGACATGCTT GGGGAGTGTCTAAAGGAACTAGAGGAATCCC ATGACCAGCATGCGGTGCTAGTGCTACAGCC TGCTGTCGAGGCCTTCTTTCTGGTCCATGCC ACAGAGCGGGAGAGCAAGCCTCCTGTCCGA GACACCCGTGAGAGCCAGCTGGCACACATC AAGGACGAGCCTCCTCCACTCTCCCCTGCCC		RLGSSGLGSASSIQAAVRQLE AEADAIIQMVREGQRARRQQ QAATSESSQSEASVRREESP MDVDQPSPSAQDTQSIASDG TPQGEKEKEERPPELPLLSEQ LSLDELWDMLGECLKELEESH DQHAVLVLQPAVEAFFLVHAT ERESKPPVRDTRESQLAHIKD EPPPLSPAPLTPATPSSLDPFF SREPSSMHISSSLPPDTQKFL RFAETHRTVLNQILRQSTTHLA DGPFAVLVDYIRVLDFDVKRK YFRQELERLDEGLRKEDMAV HVRRDHVFEDSYRELHRKSP EEMKNRLYIVFEGEEGQDAG GLLREWYMIISREMFNPMYAL FRTSPGDRVTYTINPSSHCNP NHLSYFKFVGRIVAKAVYDNR LLECYFTRSFYKHILGKSVRYT DMESEDYHFYQGLVYLLENDV STLGYDLTFSTEVQEFGVCEV RDLKPNGANILVTEENKKEYV HLVCQMRMTGAIRKQLAAFLE GFYEIIPKRLISIFTEQELELLIS GLPTIDIDDLKSNTEYHKYQSN SIQIQWFWRALRSFDQADRAK FLQFVTGTSKVPLQGFAALEG MNGIQKFQIHRDDRSTDRLPS AHTCFNQLDLPAYESFEKSAT CYCWLSRSALKALGWPNKAL PNSVGFFLPLLDLGRGELKKE PERNCQKPINEIHQLTVCVPAA PSSPAHTCSSSHSLPAACFLT FSPLSMPSMIPTPCVLKRQ*	

				CCTTAACCCCAGCCACGCCTTCCTCCCTTGA CCCATTCTTCTCCCGGGAGCCCTCATCTATG CACATCTCCTCAAGCCTGCCCCCTGACACAC AGAAGTTCCTTCGCTTTGCAGAGACTCACCG CACTGTGTTAAACCAGATCCTACGGCAGTCC ACGACCCACCTTGCTGATGGGCCTTTTGCTG TCCTGGTAGACTACATTCGTGTCCTCGACTTT GATGTCAAGCGCAAATATTTCCGCCAAGAGC TGGAGCGTTTAGATGAGGGGCTCCGGAAAG AAGACATGGCTGTGCATGTCCGTCGTGACCA TGTGTTTGAAGACTCCTATCGTGAGCTGCAT CGCAAATCCCCCGAAGAAATGAAGAATCGAT TGTATATAGTATTTGAAGGAGAAGAAGGGCA GGATGCTGGCGGGCTCCTGCGGGAGTGGTA TATGATCATCTCTCGAGAGATGTTTAACCCTA TGTATGCCTTGTTCCGTACCTCACCTGGTGAT CGAGTCACCTACACCATCAATCCATCTTCCCA CTGCAACCCCAACCACCTCAGCTACTTCAAG TTTGTCGGACGCATTGTGGCCAAAGCTGTAT ATGACAACCGTCTTCTGGAGTGCTACTTTACT CGATCCTTTTACAAACACATCTTGGGCAAGTC AGTCAGATATACAGATATGGAGAGTGAAGAT TACCACTTCTACCAAGGTCTGGTTTATCTGCT GGAAAATGATGTCTCCACACTAGGCTATGAC CTCACCTTCAGCACTGAGGTCCAAGAGTTTG GAGTTTGTGAAGTTCGTGACCTCAAACCCAA TGGGGCCAACATCTTGGTAACAGAGGAGAAT AAGAAGGAGTATGTACACCTGGTATGCCAGA TGAGAATGACAGGAGCCATCCGCAAGCAGTT GGCGGCTTTCTTAGAAGGCTTCTATGAGATC ATTCCAAAGCGCCTCATTTCCATCTTCACTGA GCAGGAGTTAGAGCTGCTTATATCAGGACTG CCCACCATTGACATCGATGATCTGAAATCCAA CACTGAATACCACAAGTACCAGTCCAACTCTA TTCAGATCCAGTGGTTCTGGAGAGCATTGCG TTCTTTCGATCAAGCTGACCGTGCCAAGTTC		

				CTCCAGTTTGTCACGGGTACTTCCAAGGTAC CCCTGCAAGGCTTTGCTGCCCTCGAAGGCAT GAATGGCATTCAGAAGTTTCAGATCCATCGA GATGACAGGTCCACAGATCGCCTGCCTTCAG CTCACACATGTTTTAATCAGCTGGATCTGCCT GCCTATGAGAGCTTTGAGAAGTCCGCCACAT GCTACTGTTGGCTATCCAGGAGTGCTCTGAA GGCTTTGGGCTGGCCTAATAAGGCCCTGCCC AACTCCGTGGGGTTTTTTTTACCATTGTTGGA CCTGGGGAGGGGGGAGTTAAAAAAAGAACC AGAAAGAAATTGTCAAAAACCAATAAATGAAA TCCACCAACTCACCGTGTGTGTCCCAGCTGC CCCATCTTCCCCAGCGCATACCTGTTCCTCTT CTCATTCTCTCCCCGCCGCCTGTTTCCTCAC CTTCTCTCCCCTTTCCATGCCGTCCATGATCC CCACCCCATGTGTTTTAAAAAGGCAGTAG		
Shigella ipaD	4	prey53990	100	CCACCTATACCCCCGGTGACTGTCCCAACTT TGCGGCTCCCCGCAGAGAGGTGGCACCACC CTATCAGGGGGCTGACCCCATCCTTGCGACA GCCCTCGCCTCCGACCCCATCCCCAACCCC CTTCAGAAGTGGGAGGACAGCGCCCACAAG CCACAGAGCCTAGACACTGATGACCCCGCGA CGCTGTACGCCGTGGTGGAGAACGTGCCCC CGTTGCGCTGGAAGGAATTCGTGCGGCGCC TAGGGCTGAGCGACCACGAGATCGATCGGC TGGAGCTGCAGAACGGGCGCTGCCTGCGCG AGGCGCAATACAGCATGCTGGCGACCTGGA GGCGGCGCACGCCGCGGCGCGAGGCCACG CTGGAGCTGCTGGGACGCGTGCTCCGCGAC ATGGACCTGCTGGGCTGCCTGGAGGACATC GAGGAGGCGCTTTGCGGCCCCGCCGCCCTC CCGCCCGCGCCCAGTCTTCTCAGATGA	301	TYTPGDCPNFAAPRREVAPPY QGADPILATALASDPIPNPLQK WEDSAHKPQSLDTDDPATLY AVVENVPPLRWKEFVRRLGLS DHEIDRLELQNGRCLREAQYS MLATWRRRTPRREATLELLGR VLRDMDLLGCLEDIEEALCGP AALPPAPSLLR*
Shigella ipaD	4	prey9120	101	GCCACGCGCTCCTCTGCCGTGCGCCTGCGG AGCAGCGTGCCCGGGGTGCGGCTCCTGCAG GACTCGGTGGACTTCTCGCTGGCCGACGCC	302	ATRSSAVRLRSSVPGVRLLQD SVDFSLADAINTEFKNTRTNEK VELQELNDRFANYIDKVRFLE

				ATCAACACCGAGTTCAAGAACACCCGCACCA ACGAGAAGGTGGAGCTGCAGGAGCTGAATG ACCGCTTCGCCAACTACATCGACAAGGTGCG CTTCCTGGAGCAGCAGAATAAGATCCTGCTG GCCGAGCTCGAGCAGCTCAAGGGCCAAGGC AAGTCGCGCCTAGGGGACCTCTACGAGGAG GAGATGCGGGAGCTGCGCCGGCAGGTGGAC CAGCTAACCAACGACAAAGCCCGCGTCGAG GTGGAGCGCGACAACCTGGCCGAGGACATC ATGCGCCTCCGGGAGAAATTGCAGGAGGAG ATGCTTCAGAGAGAGGAAGCCGAAAACACCC TGCAATCTTTCAGACAGGATGTTGACAATGC GTCTCTGGCACGTCTTGACCTTGAACGCAAA GTGGAATCTTTGCAAGAAGAGATTGCCTTTTT GAAGAAACTCCACGAAGAGGAAATCCAGGAG CTGCAGGCTCAGATTCAGGAACAGCATGTCC AAATCGATGTGGATGTTTCCAAGCCTGACCT CACGGCTGCCCTGCGTGACGTACGTCAGCA ATATGAAAGTGTGGCTGCCAAGAACCTGCAG GAGGCAGAAGAATGGTACAAATCCAAGTTTG CTGACCTCTCTGAGGCTGCCAACCGGAACAA TGACGCCCTGCGCCAGGCAAAGCAGGAGTC CACTGAGTACCGGAGACAGGTGCAGTCCCTC ACCTGTGAAGTGGATGCCCTTAAAGGAACCA ATGAGTCCCTGGAACGCCAGATGCGTGAAAT GGAAGAGAACTTTGCCGTTGAAGCTGCTAAC TACCAAGACACTATTGGCCGCCTGCAGGATG AGATTCAGAATATGAAGGAGGAAATGGCTCG TCACCTTCGTGAATACCAAGACCTGCTCAAT GTTAAGATGGCCCTTGACATTGAGATTGCCA CCTACAGGAAGCTGCTGGAAGGCGAGGAGA GCAGGATTTCTCTGCCTCTTCCAAACTTTTCC TCCCTGAACCTGAGGGAAACTAATCTGGATT CACTCCCTCTGGTTGATACCCACTCAAAAAG GACATTCCTGATTAAGACGGTTGAAACTAGA GATGGACAGGTTATCAACGAAACTTCTCAGC		QQNKILLAELEQLKGQGKSRL GDLYEEEMRELRRQVDQLTN DKARVEVERDNLAEDIMRLRE KLQEEMLQREEAENTLQSFR QDVDNASLARLDLERKVESLQ EEIAFLKKLHEEEIQELQAQIQE QHVQIDVDVSKPDLTAALRDV RQQYESVAAKNLQEAEEWYK SKFADLSEAANRNNDALRQAK QESTEYRRQVQSLTCEVDALK GTNESLERQMREMEENFAVE AANYQDTIGRLQDEIQNMKEE MARHLREYQDLLNVKMALDIEI ATYRKLLEGEESRISLPLPNFS SLNLRETNLDSLPLVDTHSKR TFLIKTVETRDGQVINETSQHH DDLE*

				ATCACGATGACCTTGAATAA		
Shigella ipaD	4	prey67571	102	CCNTANTATGGAGACTANCNCCNTGGTCCGC NCTGGAAGGATCACCTTATGTNCAGATGCAA GTTCTGATGCAGNAGGTCTGGGCAGANCCC NCNACTCTGCNTTTCCNCAGGCTGGCAGTGG TGANGATGCTGCGGTCCAGGCAGGGAGCTG CTTTTGCAGGGTGAGGCGGTGGANGGCTGC AACACNCCCCNGACCCCNTCTCCNTTCTCAA ATGCTGNGANGACTGGAATNNTCCATAGANN ANGTTTCTTTTTTNTANNNNAAANTNATGAAN	303	PXYGDXXXGPXWKDHLMXRC KF*CXRSGQXPXLCXSXGWQ W*XCCGPGRELLLQGEAVXG CNTPXTPSPFSNAXXTGXXHR XXFFFXXXXXE
Shigella ipaD	4	prey67572	103	TCCTTTNAGGATGNTGAAAAGANGAATATATG CTTGGGAGCATGNNGTATCTTTNTGGTAGCA TNACGCCATGNCCTACTTGTGCTTNNNNCAC TTNGTTTNNNNGGACTACAACATGGAGGAAN TNNACCNNATCTACCCTNTAGGCCTGCTCNT GGTCTCCTTGNTGTATCATGCCCTCGCTGGT NTGGAGCCNNNGCGGGNCCTCTTGANTATG CTTCANCCATACCAACACTGGTTGTATGTACG CGATCGCAACATCANATGCACGTATGTTNCTT GCTGTACAGACGCTACNAGAGANGGGCTTCC CTGNATN	304	SFXDXEKXNICLGAXXIFXVAX RHXLLVLXXLXXXGLQHGGXX PXLPXRPAXGLLXVSCPRWX GAXAGPLXYASXIPTLVVCTRS QHXMHVCXLLYRRYXRXASLX
Shigella ipaD	4	prey65696	104	TGCTGCTGCCACCAACCACACCACTGATAAT GGTGTGGGTCCTGAGGAAGAGAGCGTGGAC CCAAATCAATACTACAAAATCCGCAGTCAAGC AATTCATCAGCTGAAGGTCAATGGGGAAGAC CCATACCCACACAAGTTCCATGTAGACATCTC ACTCACTGACTTCATCCAAAAATATAGTCACC TGCAGCCTGGGGATCACCTGACTGACATCAC CTTAAAGGTGGCAGGTAGGATCCATGCCAAA AGAGCTTCTGGGGGAAAGCTCATCTTCTATG ATCTTCGAGGAGAGGGGGTGAAGTTGCAAGT CATGGCCAATTCCAGAAATTATAAATCAGAAG AAGAATTTATTCATATTAATAACAAACTGCGT CGGGGAGACATAATTGGAGTTCAGGGGAATC CTGGTAAAACCAAGAAGGGTGAGCTGAGCAT	305	AAATNHTTDNGVGPEEESVD PNQYYKIRSQAIHQLKVNGED PYPHKFHVDISLTDFIQKYSHL QPGDHLTDITLKVAGRIHAKRA SGGKLIFYDLRGEGVKLQVMA NSRNYKSEEEFIHINNKLRRG DIIGVQGNPGKTKKGELSIIPYE ITLLSPCLHMLPHLHFGLKDKE TRYRQRYLDLILNDFVRQKFII RSKIITYIRSFLDELGFLEIETP MMNIIPGGAVAKPFITYHNELD MNLYMRIAPELYHKMLVVGGI DRVYEIGRQFRNEGIDLTHNP EFTTCEFYMAYADYHDLMEIT

				CATTCCGTATGAGATCACACTGCTGTCTCCCT GTTTGCATATGTTACCTCATCTTCACTTTGGG CTCAAAGACAAGGAAACAAGGTATCGCCAGA GATACTTGGACTTGATCCTGAATGACTTTGTG AGGCAGAAATTTATCATCCGCTCTAAGATCAT CACATATATAAGAAGTTTCTTAGATGAGCTGG GATTCCTAGAGATTGAAACTCCCATGATGAAC ATCATCCCAGGGGGAGCCGTGGCCAAGCCT TTCATCACTTATCACAACGAGCTGGACATGAA CTTATATATGAGAATTGCTCCAGAACTCTATC ATAAGATGCTTGTGGTTGGTGGCATCGACCG GGTTTATGAAATTGGACGCCAGTTCCGGAAT GAGGGGATTGATTTGACGCACAATCCTGAGT TCACCACCTGTGAGTTCTACATGGCCTATGC AGACTATCACGATCTCATGGAAATCACGGAG AAGATGGTTTCAGGGATGGTGAAGCATATTA CAGGCAGTTACAAGGTCACCTACCACCCAGA TGGCCCAGAGGGCCAAGCCTACGATGTTGA CTTCACCCCACCCTTCCGGCGAATCAACATG GTAGAAGAGCTTGAGAAAGCCCTGGGGATGA AGCTGCCAGAAACGAACCTCTTTGAAACTGA AGAAACTCGCAAAATTCTTGATGATATCTGTG TGGCAAAAGCTGTTGAATGCCCTCCACCTCG GACCACAGCCAGGCTCCTTGACAAGCTTGTT GGGGAGTTCCTGGAAGTGACTTGCATCAATC CTACATTCATCTGTGATCACCCACAGATAATG AGCCCTTTGGCTAAATGGCACCGCTCTAAAG AGGGTCTGACTGAGCGCTTTGAGCTGTTTGT CATGAAGAAAGAGATATGCAATGCGTATACT GAGCTGAATGATCCCATGCGGCAGCGGCAG CTTTTTGAAGAACAGGCCAAGGCCAAGGCTG CAGGTGATGATGAGGCCATGTTCATAGATGA AAACTTCTGTACTGCCCTGGAATATGGGCTG CCCCCCACAGCTGGCTGGGGCATGGGCATT GATCGAGTCGCCATGTTTCTCACGGACTCCA ACAACATCAAGGAAGTACTTCTGTTTCCTGCC		EKMVSGMVKHITGSYKVTYHP DGPEGQAYDVDFTPPFRRINM VEELEKALGMKLPETNLFETE ETRKILDDICVAKAVECPPPRT TARLLDKLVGEFLEVTCINPTFI CDHPQIMSPLAKWHRSKEGLT ERFELFVMKKEICNAYTELND PMRQRQLFEEQAKAKAAGDD EAMFIDENFCTALEYGLPPTA GWGMGIDRVAMFLTDSNNIKE VLLFPAMKPEDKKENVATTDT LESTTVGTSV*

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				ATGAAACCCGAAGACAAGAAGGAGAATGTAG CAACCACTGATACACTGGAAAGCACAACAGT TGGCACTTCTGTCTAG		
Shigella ipaD	4	prey8889	105	GCTCAAGCCGGAGTTCATGCGGCGGCCGGA CAAGTCCTTCGACCCCTTCACTGAGGTCATC GTGGATGGCATCGTGGCCAATGCCTTGCGG GTCAAGGTGATCTCAGGGCAGTTCCTGTCCG ACAGGAAGGTGGGCATCTACGTGGAGGTGG ACATGTTTGGCCTCCCTGTTGATACGCGGCG CAAGTACCGCACCCGGACCTCTCAGGGGAA CTCGTTCAACCCCGTGTGGGACGAAGAGCC CTTCGACTTCCCCAAGGTGGTGCTGCCCACG CTGGCTTCACTTCGCATTGCAGCCTTTGAGG AGGGGGGTAAATTCGTAGGGCACCGGATCC TGCCTGTCTCTGCCATCCGCTCCGGATACCA CTACGTCTGCCTGCGGAACGAGGCCAACCAA CCGCTGTGCCTGCCGGCCCTGCTCATCTACA CCGAAGCCTCGGACTACATTCCTGACGACCA CCAGGACTATGCGGAGGCCCTGATCAACCC CATTAAGCACGTCAGCCTGATGGACCAGAGG GCCCGGCAGCTGGCCGCCCTCATTGGGGAG AGTGAGGCTCAGGCTGGCCAAGAGACGTGC CAGGACACCCAGTCTCAGCAGCTGGGGTCT CAGCCGTCCTCAAACCCCACCCCCAGCCCAC TGGATGCCTCCCCCCGCCGGCCCCCTGGCC CCACCACCTCCCCTGCCAGCACCTCCCTCAG CAGCCCAGGGCAGCGTGATGATCTCATCGC CAGCATCCTCTCAGAGGTGGCCCCCACCCC GCTGGATGAGCTCCGAGGTCACAAGGCTCT GGTCAAGCTCCGGAGCCGGCAAGAGCGAGA CCTGCGGGAGCTGCGCAAGAAGCATCAGCG GAAGGCAGTCACCCTCACCCGCCGCCTGCT GGATGGCCTGGCTCAGGCACAGGCTGAGGG CAGGTGCCGGCTGCGGCCAGGTGCCCTAGG TGGGGCCGCTGATGTGGAGGACACGAAGGA	306	LKPEFMRRPDKSFDPFTEVIV DGIVANALRVKVISGQFLSDRK VGIYVEVDMFGLPVDTRRKYR TRTSQGNSFNPVWDEEPFDF PKVVLPTLASLRIAAFEEGGKF VGHRILPVSAIRSGYHYVCLRN EANQPLCLPALLIYTEASDYIP DDHQDYAEALINPIKHVSLMD QRARQLAALIGESEAQAGQET CQDTQSQQLGSQPSSNPTPS PLDASPRRPPGPTTSPASTSL SSPGQRDDLIASILSEVAPTPL DELRGHKALVKLRSRQERDLR ELRKKHQRKAVTLTRRLLDGL AQAQAEGRCRLRPGALGGAA DVEDTKEGEDEAKRYQEFQN RQVQSLLELREAQVDAEAQR RLEHLRQALQRLREVVLDANT TQFKRLKEMNEREKKELQKIL DRKRHNSISEAKMRDKHKKEA ELTEINRRHITESVNSIRRLEEA QKQRHDRLVAGQQQVLQQLA EEEPKLLAQLAQECQEQRARL PQEIRRSLLGEMPEGLGDGPL VACASNGHAPGSSGHLSGAD SESQEENTQL*

				GGGGGAGGACGAGGCAAAGCGGTATCAGGA GTTCCAGAACAGACAGGTGCAGAGCCTGCTG GAGCTGCGGGAGGCCCAGGTGGACGCAGAG GCCCAGCGGAGGCTGGAACACCTGAGACAG GCTCTGCAGCGGCTCAGGGAGGTCGTCCTT GATGCAAACACAACTCAGTTCAAGAGGCTGA AAGAGATGAACGAGAGGGAGAAGAAGGAGC TGCAGAAGATCCTGGACAGAAAGCGCCATAA CAGCATCTCGGAGGCCAAGATGAGGGACAA GCATAAGAAGGAGGCGGAACTGACGGAGAT TAACCGTCGGCACATCACTGAGTCAGTCAAC TCCATCCGTCGGCTGGAGGAGGCCCAGAAG CAGCGGCATGACCGTCTTGTGGCTGGGCAG CAGCAGGTCCTGCAACAGCTGGCAGAAGAG GAGCCCAAGCTGCTGGCCCAGCTGGCCCAG GAGTGTCAGGAGCAGCGGGCGAGGCTCCCC CAGGAGATCCGCCGGAGCCTGCTGGGCGAG ATGCCGGAGGGGCTGGGGGACGGGCCTCTG GTGGCCTGTGCCAGCAACGGTCACGCACCC GGGAGCAGCGGGCACCTGTCGGGCGCTGAC TCGGAGAGCCAGGAGGAGAACACGCAGCTC TGA		
Shigella ipaD	4	prey700	106	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGA ACATGAATAGACTACCAGGTTGGGATAAGCA TTCATATGGTTACCATGGGGATGATGGACATT CGTTTTGTTCTTCTGGAACTGGACAACCTTAT GGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGC TTTTACACCAAGAATGGACATAGTTTAGGTAT TGCTTTCACTGACCTACCGCCAAATTTGTATC CTACTGTGGGGCTTCAAACACCAGGAGAAGT GGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGT GGAGAACCAAAATCCAGGCACAGATAGATCG ATTTCCTATCGGAGATCGAGAAGGAGAATGG	307	MGIGLSAQGVNMNRLPGWDK HSYGYHGDDGHSFCSSGTGQ PYGPTFTTGDVIGCCVNLINNT CFYTKNGHSLGIAFTDLPPNLY PTVGLQTPGEVVDANFGQHP FVFDIEDYMREWRTKIQAQID RFPIGDREGEWQTMIQKMVS SYLVHHGYCATAEAFARSTDQ TVLEELASIKNRQRIQKLVLAG RMGEAIETTQQLYPSLLERNP NLLFTLKVRQFIEMVNGTDSE VRCLGGRSPKSQDSYPVSPR PFSSPSMSPSHGMNIHNLASG

				CAGACCATGATACAAAAAATGGTTTCATCTTA TTTAGTCCACCATGGGTACTGTGCCACAGCA GAGGCCTTTGCCAGATCTACAGACCAGACCG TTCTAGAAGAATTAGCTTCCATTAAGAATAGA CAAAGAATTCAGAAATTGGTATTAGCAGGAA GAATGGGAGAAGCCATTGAAACAACACAACA GTTATACCCAAGTTTACTTGAAAGAAATCCTA ATCTCCTTTTCACATTAAAAGTGCGTCAGTTT ATAGAAATGGTGAATGGTACAGATAGTGAAG TACGATGTTTGGGAGGCCGAAGTCCAAAGTC TCAAGACAGTTATCCTGTTAGTCCTCGACCTT TTAGTAGTCCAAGTATGAGCCCCAGCCATGG AATGAATATCCACAATTTAGCATCAGGCAAAG GAAGCACCGCACATTTTTCAGGTTTTGAAAGT TGTAGTAATGGTGTAATATCAAATAAAGCACA TCAATCATATTGCCATAGTAATAAACACCAGT CATCCAACTTGAATGTACCAGAACTAAACAGT ATAAATATGTCAAGATCACAGCAAGTTAATAA CTTCACCAGTAATGATGTAGACATGGAAACA GATCACTACTCCAATGGAGTTGGAGAAACTT CATCCAATGGTTTCCTAAATGGTAGCTCTAAA CATGACCACGAAATGGAAGATTGTGACACCG AAATGGAAGTTGATTCAAGTCAGTTGAGACG CCAGTTGTGTGGAGGAAGTCAGGCCGCCATA GAAAGAATGATCCACTTTGGACGAGAGCTGC AAGCAATGAGTGAACAGCTAAGGAGAGACTG TGGCAAGAACACTGCAAACAAAAAAATGTTG AAGGATGCATTCAGTCTACTAGCATATTCAGA TCCCTGGAACAGCCCAGTTGGAAATCAGCTT GACCCGATTCAGAGAGAACCTGTGTGCTCAG CTCTTAACAGTGCAATATTAGAAACCCACAAT CTGCCAAAGCAACCTCCACTTGCCCTAGCAA TGGGACAGGCCACACAATGTCTAGGACTGAT GGCTCGATCAGGAATTGGATCCTGCGCATTT GCCACAGTGGAAGACTACCTACATTAG		KGSTAHFSGFESCSNGVISNK AHQSYCHSNKHQSSNLNVPE LNSINMSRSQQVNNFTSNDVD METDHYSNGVGETSSNGFLN GSSKHDHEMEDCDTEMEVDS SQLRRQLCGGSQAAIERMIHF GRELQAMSEQLRRDCGKNTA NKKMLKDAFSLLAYSDPWNSP VGNQLDPIQREPVCSALNSAIL ETHNLPKQPPLALAMGQATQ CLGLMARSGIGSCAFATVEDY LH*

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Shigella ipaD	4	prey2694	107	ATGGCACACGCTATGGAAAACTCCTGGACAA TCAGTAAAGAGTACCATATTGATGAAGAAGTG GGCTTTGCTCTGCCAAATCCACAGGAAAATC TACCTGATTTTTATAATGACTGGATGTTCATT GCTAAACATCTGCCTGATCTCATAGAGTCTG GCCAGCTTCGAGAAAGAGTTGAGAAGTTAAA CATGCTCAGCATTGATCATCTCACAGACCAC AAGTCACAGCGCCTTGCACGTCTAGTTCTGG GATGCATCACCATGGCATATGTGTGGGGCAA AGGTCATGGAGATGTCCGTAAGGTCTTGCCA AGAAATATTGCTGTTCCTTACTGCCAACTCTC CAAGAAACTGGAACTGCCTCCTATTTTGGTTT ATGCAGACTGTGTCTTGGCAAACTGGAAGAA AAAGGATCCTAATAAGCCCCTGACTTATGAG AACATGGACGTTTTGTTCTCATTTCGTGATGG AGACTGCAGTAAAGGATTCTTCCTGGTCTCT CTATTGGTGGAAATAGCAGCTGCTTCTGCAA TCAAAGTAATTCCTACTGTATTCAAGGCAATG CAAATGCAAGAACGGGACACTTTGCTAAAGG CGCTGTTGGAAATAGCTTCTTGCTTGGAGAA AGCCCTTCAAGTGTTTCACCAAATCCACGATC ATGTGAACCCAAAAGCATTTTTCAGTGTTCTT CGCATATATTTGTCTGGCTGGAAAGGCAACC CCCAGCTATCAGACGGTCTGGTGTATGAAGG GTTCTGGGAAGACCCAAAGGAGTTTGCAGGG GGCAGTGCAGGCCAAAGCAGCGTCTTTCAGT GCTTTGACGTCCTGCTGGGCATCCAGCAGAC TGCTGGTGGAGGACATGCTGCTCAGTTCCTC CAGGACATGAGAAGATATATGCCACCAGCTC ACAGGAACTTCCTGTGCTCATTAGAGTCAAAT CCCTCAGTCCGTGAGTTTGTCCTTTCAAAAG GTGATGCTGGCCTGCGGGAAGCTTATGACG CCTGTGTGAAAGCTCTGGTCTCCCTGAGGAG CTACCATCTGCAAATCGTGACTAAGTACATCC TGATTCCTGCAAGCCAGCAGCCAAAGGAGAA TAAGACCTCTGAAGACCCTTCAAAACTGGAA	308	MAHAMENSWTISKEYHIDEEV GFALPNPQENLPDFYNDWMFI AKHLPDLIESGQLRERVEKLN MLSIDHLTDHKSQRLARLVLG CITMAYVWGKGHGDVRKVLP RNIAVPYCQLSKKLELPPILVY ADCVLANWKKKDPNKPLTYE NMDVLFSFRDGDCSKGFFLVS LLVEIAAASAIKVIPTVFKAMQM QERDTLLKALLEIASCLEKALQ VFHQIHDHVNPKAFFSVLRIYL SGWKGNPQLSDGLVYEGFWE DPKEFAGGSAGQSSVFQCFD VLLGIQQTAGGGHAAQFLQD MRRYMPPAHRNFLCSLESNP SVREFVLSKGDAGLREAYDAC VKALVSLRSYHLQIVTKYILIPA SQQPKENKTSEDPSKLEAKGT GGTDLMNFLKTVRSTTEKSLL KEG*

				GCCAAAGGAACTGGAGGCACTGATTTAATGA ATTTCCTGAAGACTGTAAGAAGTACAACTGAG AAATCCCTTTTGAAGGAAGGTTAA		
Shigella ipaD	4	prey53735	108	GGGTGAACCAGAAGGTTCCTTCGTGGATTAC CAAACAACTATGGTGCGGACAGCCAAGGCCA TTGCAGTGACCGTTCAGGAGATGGTTACCAA GTCAAACACCAGCCCAGAGGAGCTGGGCCC TCTTGCTAACCAGCTGACCAGTGACTATGGC CGTCTGGCCTCGGAGGCCAAGCCTGCAGCG GTGGCTGCTGAAAATGAAGAGATAGGTTCCC ATATCAAACACCGGGTACAGGAGCTGGGCCA TGGCTGTGCCGCTCTGGTCACCAAGGCAGG CGCCCTGCAGTGCAGCCCCAGTGATGCCTA CACCAAGAAGGAGCTCATAGAGTGTGCCCG GAGAGTCTCTGAGAAGGTCTCCCACGTCCTG GCTGCGCTCCAGGCTGGGAATCGTGGCACC CAGGCCTGCATCACAGCAGCCAGCGCTGTG TCTGGTATCATTGCTGACCTCGACACCACCA TCATGTTCGCCACTGCTGGCACGCTCAATCG TGAGGGTACTGAAACTTTCGCTGACCACCGG GAGGGCATCCTGAAGACTGCGAAGGTGCTG GTGGAGGACACCAAGGTCCTGGTGCAAAAC GCAGCTGGGAGCCAGGAGAAGTTGGCGCAG GCTGCCCAGTCCTCCGTGGCGACCATCACC CGCCTCGCTGATGTGGTCAAGCTGGGTGCA GCCAGCCTGGGAGCTGAGGACCCTGAGACC CAGGTGGTACTAATCAACGCAGTGAAAGATG TAGCCAAAGCCCTGGGAGACCTCATCAGTGC AACGAAGGCTGCAGCTGGCAAAGTTGGAGAT GACCCTGCTGTGTGGCAGCTAAAGAACTCTG CCAAGGTGATGGTGACCAATGTGACATCATT GCTTAAGACAGTAAAAGCCGTGGAAGATGAG GCCACCAAAGGCACTCGGGCCCTGGAGGCA ACCACAGAACACATACGGCAGGAGCTGGCG GTTTTCTGTTCCCCAGAGCCACCTGCCAAGA	309	GEPEGSFVDYQTTMVRTAKAI AVTVQEMVTKSNTSPEELGPL ANQLTSDYGRLASEAKPAAVA AENEEIGSHIKHRVQELGHGC AALVTKAGALQCSPSDAYTKK ELIECARRVSEKVSHVLAALQA GNRGTQACITAASAVSGIIADL DTTIMFATAGTLNREGTETFA DHREGILKTAKVLVEDTKVLVQ NAAGSQEKLAQAAQSSVATIT RLADVVKLGAASLGAEDPETQ VVLINAVKDVAKALGDLISATK AAAGKVGDDPAVWQLKNSAK VMVTNVTSLLKTVKAVEDEAT KGTRALEATTEHIRQELAVFCS PEPPAKTSTPEDFIRMTKGITM ATAKAVAAGNSCRQEDVIATA NLSRRAIADMLRACKEAAYHP EVAPDVRLRALHYGRECANG YLELLDHVLLTLQKPSPELKQQ LTGHSKRVAGSVTELIQAAEA MKGTEWVDPEDPTVIAENELL GAAAAIEAAAKKLEQLKPRAK PKEADESLNFEEQILEAAKSIA AATSALVKAASAAQRELVAQG KVGAIPANALDDGQWSQGLIS AARMVAAATNNLCEAANAAV QGHASQEKLISSAKQVAASTA QLLVACKVKADQDSEAMKRL QAAGNAVKRASDNLVKAAQK AAAFEEQENETVVVKEKMVG GIAQIIAAQEEMLRKERELEEA

				CCTCTACCCCAGAAGACTTCATCCGAATGAC CAAGGGTATCACCATGGCAACCGCCAAGGC CGTTGCTGCTGGCAATTCCTGTCGCCAGGAA GATGTCATTGCCACAGCCAATCTGAGCCGCC GTGCTATTGCAGATATGCTTCGGGCTTGCAA GGAAGCAGCTTACCACCCAGAAGTGGCCCCT GATGTGCGGCTTCGAGCCCTGCACTATGGCC GGGAGTGTGCCAATGGCTACCTGGAACTGCT GGACCATGTACTGCTGACCCTGCAGAAGCCA AGCCCAGAACTGAAGCAGCAGTTGACAGGAC ATTCAAAGCGTGTGGCTGGTTCCGTCACTGA GCTCATCCAGGCTGCTGAAGCCATGAAGGGA ACAGAATGGGTAGACCCAGAGGACCCCACA GTCATTGCTGAGAATGAGCTCCTGGGAGCTG CAGCCGCCATTGAGGCTGCAGCCAAAAAGCT AGAGCAGCTGAAGCCCCGGGCCAAACCCAA GGAGGCAGATGAGTCCTTGAACTTTGAGGAG CAGATACTAGAAGCTGCCAAGTCCATTGCAG CAGCCACCAGTGCACTGGTAAAGGCTGCGTC GGCTGCCCAGAGAGAACTAGTGGCCCAAGG GAAGGTGGGTGCCATTCCAGCCAATGCACTG GACGATGGGCAGTGGTCCCAGGGCCTCATTT CTGCTGCCCGGATGGTGGCTGCGGCCACCA ACAATCTGTGTGAGGCAGCCAATGCAGCTGT ACAAGGCCATGCCAGCCAGGAGAAGCTCATC TCATCAGCCAAGCAGGTAGCTGCCTCCACAG CCCAGCTCCTTGTGGCCTGCAAGGTCAAGGC TGACCAGGACTCGGAGGCAATGAAACGACTT CAGGCTGCTGGCAACGCAGTGAAGCGAGCC TCAGATAATCTGGTGAAAGCAGCACAGAAGG CTGCAGCCTTTGAAGAGCAGGAGAATGAGAC AGTGGTGGTGAAAGAGAAGATGGTTGGCGG CATTGCCCAGATCATCGCAGCACAGGAAGAA ATGCTTCGGAAGGAACGAGAGCTGGAAGAG GCGCGGAAGAAACTGGCCCAGATCCGGCAG CAGCAGTACAAGTTTCTGCCTTCAGAGCTTC		RKKLAQIRQQQYKFLPSELRD EH*

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				GAGATGAGCACTAA		
Shigella ipaD	4	prey67574	109	NNACAGGAGANTGAGTTGCAANCGGCGGGT GATGCNNNTCTACCNGNNCGTGNACGANCC ACAGACGCCNCTNCCTGGGTCCTGGGATNC CAAACNACANNNNCATNTACNTTNGTCTNTGT CAGANCANNCTGNGGNTGCACTNCNNNCGT CATTGCTTAACNNNACNAGATGCCNCGTCAT TTCNAGNCACNCATACAATACCACNTGCNTG NGTGATTTNTTTTTTNGANNTGCCAATTNTGA TGAAGGGAACATATNTNTTCATGGGAATTGG TCTTTCTGTTNANNGTNTNAACAC	310	XQEXELQXAGDAXLPXRXRXT DAXXWVLGXQTTXXXTXVXV RXXXGCTXXVIA*XXXMPRHF XXXIQYHXXX*FXFXXCQX**R EHXXSWELVFLXXVXT
Shigella ipaC	5	prey67509	110	GCTACTCACCCACCTCTCCCAGCTACTCGCC CACCTCTCCCAGCTATTCGCCCACCTCTCCC AGCTACTCACCCACTTCCCCTAGCTATTCGC CCACTTCCCCTAGCTACTCGCCAACGTCTCC CAGCTACTCGCCGACATCTCCCAGCTACTCG CCAACTTCACCCAGCTATTCTCCCACTTCTCC CAGCTACTCACCTACCTCTCCAAGCTATTCAC CCACCTCCCCCAGCTACTCACCCACTTCCCC AAGTTACTCACCCACCAGCCCGAACTATTCT CCAACCAGTCCCAATTACACCCCAACATCAC CCAGCTACAGCCCGACATCACCCAGCTATTC CCCTACTAGTCCCAACTACACACCTACCAGC CCTAACTACAGCCCAACCTCTCCAAGCTACT CTCCAACATCACCCAGCTATTCCCCGACCTC ACCAAGTTACTCCCCTTCCAGCCCACGATAC ACACCACAGTCTCCAACCTATACCCCAAGCT CACCCAGCTACAGCCCCAGTTCGCCCAGCTA CAGCCCAACCTCACCCAAGTACACCCCAACC AGTCCTTCTTATAGTCCCAGCTCCCCAGAGT ATACCCCAACCTCTCCCAAGTACTCACCTAC CAGTCCCAAATATTCACCCACCTCTCCCAAGT ACTCGCCTACCAGTCCCACCTATTCACCCAC CACCCCAAAATACTCCCCAACATCTCCTACTT ATTCCCCAACCTCTCCAGTCTACACCCCAAC	311	YSPTSPSYSPTSPSYSPTSPS YSPTSPSYSPTSPSYSPTSPS YSPTSPSYSPTSPSYSPTSPS YSPTSPSYSPTSPSYSPTSPS YSPTSPNYSPTSPNYTPTSPS YSPTSPSYSPTSPNYTPTSPN YSPTSPSYSPTSPSYSPTSPS YSPSSPRYTPQSPTYTPSSPS YSPSSPSYSPTSPKYTPTSPS YSPSSPEYTPTSPKYSPTSPK YSPTSPKYSPTSPTYSPTTPK YSPTSPTYSPTSPVYTPTSPK YSPTSPTYSPTSPKYSPTSPT YSPTSPKGSTYSPTSPGYSPT SPTYSLTSPAISPDDSDEEN*

				CTCTCCCAAGTACTCACCTACTAGCCCCACTT ACTCGCCCACTTCCCCCAAGTACTCGCCCAC CAGCCCCACCTACTCGCCCACCTCCCCCAAA GGCTCAACCTACTCTCCCACTTCCCCTGGTT ACTCGCCCACCAGCCCCACCTACAGTCTCAC AAGCCCGGCTATCAGCCCGGATGACAGTGA CGAGGAGAACTGA		
Shigella ipaC	5	prey67514	111	ATGCACAAGGAGGAACATGAGGTGGCTGTG CTGGGGGCACCCCCCAGCACCATCCTTCCAA GGTCCACCGTGATCAACATCCACAGCGAGAC CTCCGTGCCCGACCATGTCGTCTGGTCCCTG TTCAACACCCTCTTCTTGAACTGGTGCTGTCT GGGCTTCATAGCATTCGCCTACTCCGTGAAG TCTAGGGACAGGAAGATGGTTGGCGACGTG ACCGGGGCCCAGGCCTATGCCTCCACCGCC AAGTGCCTGAACATCTGGGCCCTGATTCTGG GCATCCTCATGACCATTGGATTCATCCTGTCA CTGGTATTCGGCTCTGTGACAGTCTACCATAT TATGTTACAGATAATACAGGAAAAACGGGGTT ACTAG	312	MHKEEHEVAVLGAPPSTILPR STVINIHSETSVPDHVVWSLFN TLFLNWCCLGFIAFAYSVKSR DRKMVGDVTGAQAYASTAKC LNIWALILGILMTIGFILSLVFGS VTVYHIMLQIIQEKRGY*
Shigella ipaC	5	prey2926	112	ATGGAGAAAACTTGTATAGATGCACTTCCTCT TACTATGAATTCTTCAGAAAAGCAAGAGACTG TATGTATTTTTGGAACTGGTGATTTTGGAAGA TCACTGGGATTGAAAATGCTCCAGTGTGGTT ATTCTGTTGTTTTTGGAAGTCGAAACCCCCAG AAGACCACCCTACTGCCCAGTGGTGCAGAAG TCTTGAGCTATTCAGAAGCAGCCAAGAAGTC TGACATCATAATCATAGCAATCCACAGAGAG CATTATGATTTTCTCACAGAATTAACTGAGGT TCTCAATGGAAAAATATTGGTAGACATCAGCA ACAACCTCAAAATCAATCAATATCCAGAATCT AATGCAGAGTACCTTGCTCATTTGGTGCCAG GAGCCCACGTGGTAAAAGCATTTAACACCAT CTCAGCCTGGGCTCTCCAGTCAGGAGCACTG GATGCAAGTCGGCAGGTGTTTGTGTGTGGAA	313	MEKTCIDALPLTMNSSEKQET VCIFGTGDFGRSLGLKMLQCG YSVVFGSRNPQKTTLLPSGAE VLSYSEAAKKSDIIIIAIHREHYD FLTELTEVLNGKILVDISNNLKI NQYPESNAEYLAHLVPGAHVV KAFNTISAWALQSGALDASRQ VFVCGNDSKAKQRVMDIVRNL GLTPMDQGSLMAAKEIEKYPL QLFPMWRFPFYLSAVLCVFLF FYCVIRDVIYPYVYEKKDNTFR MAISIPNRIFPITAPYTACFGLP PWCYCCHSTTVPRHKIPSIPR LA*

				ATGACAGCAAAGCCAAGCAAAGAGTGATGGA TATTGTTCGTAATCTTGGACTTACTCCAATGG ATCAAGGATCACTCATGGCAGCCAAAGAAAT TGAAAAGTACCCCCTGCAGCTATTTCCAATGT GGAGGTTCCCCTTCTATTTGTCTGCTGTGCT GTGTGTCTTCTTGTTTTTCTATTGTGTTATAAG AGACGTAATCTACCCTTATGTTTATGAAAAGA AAGATAATACATTTCGTATGGCTATTTCCATT CCAAATCGTATCTTTCCAATAACAGCACCTTA CACTGCTTGCTTTGGTTTACCTCCCTGGTGTT ATTGCTGCCATTCTACAACTGTACCGAGGCA CAAAATACCGTCGATTCCCAGACTGGCTTGA		
Shigella ipaC	5	prey4458	113	CCAGGACGTCCAGGCCAGCCAGGCGGAGGC TGACCAGCAGCAGACTCGCCTCAAGGAGCT GGAGTCCCAGGTGTCGGGTCTGGAGAAGGA GGCCATCGAGCTCAGGGAGGCCGTCGAGCA GCAGAAAGTGAAGAACAATGACCTCCGGGAG AAGAACTGGAAGGCCATGGAGGCACTGGCC ACGGCCGAGCAGGCCTGCAAGGAGAAGCTG CACTCCCTGACCCAGGCCAAGGAGGAATCG GAGAAGCAGCTCTGTCTGATTGAGGCGCAGA CCATGGAGGCCCTGCTGGCTCTGCTCCCAG AACTCTCTGTCTTGGC	314	QDVQASQAEADQQQTRLKEL ESQVSGLEKEAIELREAVEQQ KVKNNDLREKNWKAMEALAT AEQACKEKLHSLTQAKEESEK QLCLIEAQTMEALLALLPELSV L
Shigella ipaC	5	prey4458	114	GGCCGAGGAGACGCAGAGCACACTGCAGGC CGAGTGTGACCAGTACCGCAGCATCCTGGC GGAGACGGAGGGCATGCTCAGAGACCTGCA GAAGAGCGTGGAGGAGGAGGAGCAGGTGTG GAGGGCCAAGGTGGGCGCCGCAGAGGAGG AGCTCCAGAAGTCCCGGGTCACAGTGAAGCA TCTCGAAGAGATTGTAG	315	AEETQSTLQAECDQYRSILAE TEGMLRDLQKSVEEEEQVWR AKVGAAEEELQKSRVTVKHLE EIV
Shigella ipaC	5	prey67522	115	GANGAATNCNNTATGCCAAAAGGACAAGGAG GTATTGGTNGCTTANGCTGGCTATGAATACN TCNTTCTGTTTGTGATANTCTATTTCTTACACC NTCNGGCATGGTAGGCAANNGCCACAGTANA TGCCACATCTATGAGGCTGNNGCNGCATACT	316	XEXXMPKGQGGIGXLXWL*IX XSVCDXLFLTPSGMVGXXHSX CHIYEAXAAYSPCLXTSXLXXX ARXVPXDXVXXTAWCXTXRT AXTXTSWRTYHEXMLTLVGRL

				CGCCGTGTCTANCTACATCCTNGTTANNGGN TGNGGCCCGNNCGGTTCCTNCCGATTNTGTT CNGGNCACAGCCTGGTGTNTGACANCTCGG ACCGCGNTNACTATNACCTCCTGGAGGACCT ACCACGAANGCATGCTNACCCTGGTGGGGA GGCTGGAAGG		E
Shigella ipaC	5	prey527	116	CATGACTGCAGACCTTCCTAATGAACTCATTG AACTGCTGGAGAAAATTGTCCTTGATAACTCT GTATTCAGTGAACACAGGAATCTGCAAAACC TCCTTATCCTCACTGCAATTAAGGCTGACCGT ACACGTGTTATGGAGTATATTAACCGCCTGG ATAATTATGATGCCCCAGATATTGCCAATATC GCCATCAGCAATGAGCTGTTTGAAGAAGCAT TTGCCATTTTCCGGAAATTTGATGTCAATACT TCAGCAGTTCAGGTCTTAATTGAGCATATTGG AAACTTGGATCGGGCATATGAGTTTGCTGAA CGTTGCAATGAACCTGCGGTCTGGAGTCAAC TTGCAAAAGCCCAGTTGCAGAAAGGAATGGT GAAAGAAGCCATTGATTCTTATATCAAAGCAG ATGATCCTTCCTCCTACATGGAAGTTGTTCAG GCTGCCAATACTAGTGGAAACTGGGAAGAAC TGGTGAAGTACTTGCAGATGGCCCGTAAGAA GGCTCGAGAGTCCTATGTGGAGACAGAACTG ATATTCGCACTGGCTAAAACAAACCGC	317	MTADLPNELIELLEKIVLDNSVF SEHRNLQNLLILTAIKADRTRV MEYINRLDNYDAPDIANIAISNE LFEEAFAIFRKFDVNTSAVQVL IEHIGNLDRAYEFAERCNEPAV WSQLAKAQLQKGMVKEAIDS YIKADDPSSYMEVVQAANTSG NWEELVKYLQMARKKARESY VETELIFALAKTNR
Shigella ipaC	5	prey53735	117	TGCAGTCCAAGAGATCTCCCATCTCATTGAG CCGCTGGCCAATGCTGCCCGGGCTGAAGCC TCCCAGCTGGGACACAAGGTGTCCCAGATG GCGCAGTACTTTGAGCCGCTCACCCTGGCTG CAGTGGGTGCTGCCTCCAAGACCCTGAGCC ACCCGCAGCAGATGGCACTCCTGGACCAGA CTAAAACATTGGCAGAGTCTGCCCTGCAGTT GCTATACACTGCCAAGGAGGCTGGTGGTAAC CCAAAGCAAGCAGCTCACACCCAGGAAGCC CTGGAGGAGGCTGTGCAGATGATGACCGAG GCCGTAGAGGACCTGACAACAACCCTCAACG	318	AVQEISHLIEPLANAARAEASQ LGHKVSQMAQYFEPLTLAAVG AASKTLSHPQQMALLDQTKTL AESALQLLYTAKEAGGNPKQA AHTQEALEEAVQMMTEAVED LTTTLNEAASAAGVVGGMVDS ITQAINQLDEGPMGEPEGSFV DYQTTMVRTAKAIAVTVQEMV TKSNTSPEELGPLANQLTSDY GRLASEAKPAAVAAENEEIGS HIKHRVQELGHGCAALVTKAG

				AGGCAGCCAGTGCTGCTGGGGTCGTGGGTG		ALQCSPSDAYTKKELIECARR
				GCATGGTGGACTCCATCACCCAGGCCATCAA		VSEKVSHVLAALQAGNRGTQ
				CCAGCTAGATGAAGGACCAATGGGTGAACCA		ACITAASAVSGIIADLDTTIMFA
				GAAGGTTCCTTCGTGGATTACCAAACAACTAT		TAGTLNREGTETFADHREGIL
				GGTGCGGACAGCCAAGGCCATTGCAGTGAC		KTAKVLVEDTKVLVQNAAGSQ
				CGTTCAGGAGATGGTTACCAAGTCAAACACC		EKLAQAAQSSVATITRLADVVK
				AGCCCAGAGGAGCTGGGCCCTCTTGCTAAC		LGAASLGAEDPETQVVLINAV
				CAGCTGACCAGTGACTATGGCCGTCTGGCCT		KDVAKALGDLISATKAAAGKV
				CGGAGGCCAAGCCTGCAGCGGTGGCTGCTG		GDDPAVWQLKNSAKVMVTNV
				AAAATGAAGAGATAGGTTCCCATATCAAACAC		TSLLKTVKAVEDEATKGTRAL
				CGGGTACAGGAGCTGGGCCATGGCTGTGCC		EATTEHIRQELAVFCSPEPPAK
				GCTCTGGTCACCAAGGCAGGCGCCCTGCAG		TSTPEDFIRMTKGITMATAKAV
				TGCAGCCCCAGTGATGCCTACACCAAGAAGG		AAGNSCRQEDVIATANLSRRA
				AGCTCATAGAGTGTGCCCGGAGAGTCTCTGA		IADMLRACKEAAYHPEVAPDV
				GAAGGTCTCCCACGTCCTGGCTGCGCTCCA		RLRALHYGRECANGYLELLD
				GGCTGGGAATCGTGGCACCCAGGCCTGCAT		
				CACAGCAGCCAGCGCTGTGTCTGGTATCATT		
				GCTGACCTCGACACCACCATCATGTTCGCCA		
				CTGCTGGCACGCTCAATCGTGAGGGTACTGA		
				AACTTTCGCTGACCACCGGGAGGGCATCCTG		
				AAGACTGCGAAGGTGCTGGTGGAGGACACC		
				AAGGTCCTGGTGCAAAACGCAGCTGGGAGC		
				CAGGAGAAGTTGGCGCAGGCTGCCCAGTCC		
				TCCGTGGCGACCATCACCCGCCTCGCTGATG		
				TGGTCAAGCTGGGTGCAGCCAGCCTGGGAG		
				CTGAGGACCCTGAGACCCAGGTGGTACTAAT		
				CAACGCAGTGAAAGATGTAGCCAAAGCCCTG		
				GGAGACCTCATCAGTGCAACGAAGGCTGCA		
				GCTGGCAAAGTTGGAGATGACCCTGCTGTGT		
				GGCAGCTAAAGAACTCTGCCAAGGTGATGGT		
				GACCAATGTGACATCATTGCTTAAGACAGTAA		
				AAGCCGTGGAAGATGAGGCCACCAAAGGCA		
				CTCGGGCCCTGGAGGCAACCACAGAACACA		
				TACGGCAGGAGCTGGCGGTTTTCTGTTCCCC		
				AGAGCCACCTGCCAAGACCTCTACCCCAGAA		
				GACTTCATCCGAATGACCAAGGGTATCACCA		

				TGGCAACCGCCAAGGCCGTTGCTGCTGGCA ATTCCTGTCGCCAGGAAGATGTCATTGCCAC AGCCAATCTGAGCCGCCGTGCTATTGCAGAT ATGCTTCGGGCTTGCAAGGAAGCAGCTTACC ACCCAGAAGTGGCCCCTGATGTGCGGCTTC GAGCCCTGCACTATGGCCGGGAGTGTGCCA ATGGCTACCTGGAACTGCTGGAC		
Shigella ipaC	5	prey53735	118	CAGTGATGTGCTGGACAAGGCCAGCAGCCT CATTGAGGAGGCGAAAAAGGCAGCTGGCCA TCCAGGGGACCCTGAGAGCCAGCAGCGGCT TGCCCAGGTGGCTAAAGCAGTGACCCAGGC TCTGAACCGCTGTGTCAGCTGCCTACCTGGC CAGCGCGATGTGGATAATGCCCTGAGGGCA GTTGGAGATGCCAGCAAGCGACTCCTGAGTG ACTCGCTTCCTCCTAGCACTGGGACATTTCA AGAAGCTCAGAGCCGGTTGAATGAAGCTGCT GCTGGGCTGAATCAGGCAGCCACAGAACTG GTGCAGGCCTCTCGGGGAACCCCTCAGGAC CTGGCTCGAGCCTCAGGCCGATTTGGACAG GACTTCAGCACCTTCCTGGAAGCTGGTGTGG AGATGGCAGGCCAGGCTCCGAGCCAGGAGG ACCGAGCCCAAGTTGTGTCCAACTTGAAGGG CATCTCCATGTCTTCAAGCAAACTTCTTCTGG CTGCCAAGGCCCTGTCCACGGACCCTGCTG CCCCTAACCTCAAGAGTCAGCTGGCTGCAGC TGCCAGGGCAGTAACTGACAGCATCAATCAG CTCATCACTATGTGCACCCAGCAGGCACCCG GCCAGAAGGAGTGTGATAACGCCCTGCGGG AATTGGAGACGGTCCGGGAACTCCTGGAGAA CCCAGTCCAGCCCATCAATGACATGTCCTAC TTTGGTTGCCTGGACAGTGTAATGGAGAACT CAAAGGTGCTGGGCGAGGCCATGACTGGCA TCTCCCAAAATGCCAAGAACGGAAACCTGCC AGAGTTTGGAGATGCCATTTCCACAGCCTCA AAGGCACTTTGTGGCTTCACCGAGGCAGCTG	319	SDVLDKASSLIEEAKKAAGHP GDPESQQRLAQVAKAVTQAL NRCVSCLPGQRDVDNALRAV GDASKRLLSDSLPPSTGTFQE AQSRLNEAAAGLNQAATELVQ ASRGTPQDLARASGRFGQDF STFLEAGVEMAGQAPSQEDR AQVVSNLKGISMSSSKLLLAAK ALSTDPAAPNLKSQLAAAARA VTDSINQLITMCTQQAPGQKE CDNALRELETVRELLENPVQPI NDMSYFGCLDSVMENSKVLG EAMTGISQNAKNGNLPEFGDA ISTASKALCGFTEAAAQAAYLV GVSDPNSQAGQQGLVEPTQF ARANQAIQMACQSLGEPGCT QAQVLSAATIVAKHTSALCNS CRLASARTTNPTAKRQFVQSA KEVANSTANLVKTIKALDGAFT EENRAQCRAATAPLLEAVDNL SAFASNPEFSSIPAQISPEGRA AMEPIVISAKTMLESAGGLIQT ARALAVNPRD

				CACAGGCTGCATATCTGGTTGGTGTCTCTGA CCCCAATAGCCAAGCTGGACAGCAAGGGCTA GTGGAGCCCACACAGTTTGCCCGTGCAAACC AGGCAATTCAGATGGCCTGCCAGAGTTTGGG AGAGCCTGGCTGTACCCAGGCCCAGGTGCT CTCTGCAGCCACCATTGTGGCTAAACACACC TCTGCACTGTGTAACAGCTGTCGCCTGGCTT CTGCCCGTACCACCAATCCTACTGCCAAGCG CCAGTTTGTACAGTCAGCCAAGGAGGTGGCC AACAGCACAGCTAATCTTGTCAAGACCATCAA GGCGCTAGATGGGGCCTTCACAGAGGAGAA CCGTGCCCAGTGCCGAGCAGCAACAGCCCC TCTGCTGGAGGCTGTGGACAATCTGAGTGCC TTTGCGTCCAACCCTGAGTTCTCCAGCATTC CTGCCCAGATCAGCCCTGAGGGTCGGGCTG CCATGGAGCCCATTGTGATCTCTGCCAAGAC AATGTTAGAGAGTGCCGGGGGACTCATCCAG ACAGCCCGGGCCCTCGCAGTCAATCCCCGG GAC		
Shigella ipaC	5	prey67546	119	CACAGGGGCTGACCTGCTGGAAGAGCATCTT GGTGAAATCTGGAACCTGCGCCAGCGCCTG GAGGAGTCCATCTGCATCAATGACTGCCTAC GGGAGCAACTGGAACACCGGC	320	TGADLLEEHLGEIWNLRQRLE ESICINDCLREQLEHR
Shigella ipaC	5	prey4671	120	CCTGGAGAGTCTCATCCAGAGAGTATCCCAG CTGGAGGCCCAGCTCCCAAAAAATGGACTAG AAGAGAAGCTGGCTGAGGAGCTGAGATCAG CCTCGTGGCCTGGGAAATATGATTCCCTGAT TCAGGATCAGGCCCGGGAACTGTCTTACCTA CGGCAAAAAATACGAGAAGGGAGAGGTATTT GTTATCTTATCACCCGGCATGCAAAAGATACA GTAAAATCTTTTGAGGATCTCCTAAGGAGCAA TGACATTGACTACTACCTGGGACAGAGCTTC CGGGAGCAACTCGCCCAGGGAAGCCAGCTG ACAGAGAGGCTCACCAGCAAACTCAGCACCA AGGATCATAAAAGTGAGAAAGATCAAGCTGG	321	LESLIQRVSQLEAQLPKNGLEE KLAEELRSASWPGKYDSLIQD QARELSYLRQKIREGRGICYLI TRHAKDTVKSFEDLLRSNDID YYLGQSFREQLAQGSQLTERL TSKLSTKDHKSEKDQAGLEPL ALRLSRELQEKEKVIEVLQAKL DARSLTPSSSHALSDSHRSPS STSFLSDELEACSDMDIVSEYT HYEEKKASPSHSDSIHHSSHS AVLSSKPSSTSASQGAKAESN SNPISLPTPQNTPKEANQAHS

				ACTTGAGCCACTGGCCCTCAGGCTCAGCAG GGAGCTGCAGGAGAAGGAGAAAGTGATTGA AGTCCTGCAGGCCAAGCTGGATGCTCGGTC CCTCACACCCTCCAGCAGCCATGCCTTGTCT GACTCCCACCGCTCTCCCAGCAGCACCTCTT TCCTGTCTGATGAACTGGAAGCCTGCTCTGA CATGGACATAGTCAGCGAGTACACACACTAT GAAGAGAAGAAAGCTTCTCCCAGTCACTCAG ATTCCATCCATCATTCGAGTCATTCTGCTGTG TTGTCTTCTAAACCATCATCAACCAGTGCATC TCAGGGGGCTAAGGCCGAATCCAACAGCAA CCCCATCAGCTTGCCAACTCCCCAGAATACC CCCAAGGAGGCCAACCAGGCCCATTCAGGC TTTCATTTTCACTCCATACCCAAGCTGGCTAG CCTTCCTCAGGCACCATTGCCCTCAGCTCCA TCCAGCTTCCTGCCTTTCAGCCCCACTGGCC CTCTCCTCCTTGGCTGCTGTGAGACACCAGT GGTCTCCTTGGCTGAGGCTCAGCAGGAGCTA CAGATGCTGCAGAAGCAGTTGGGAGAAAGTG CCAGCACTGTTCCTCCTGCTTCCACAGCTAC ATTGCTGAGCAACGACTTGGAAGCCGACTCT TCCTACTACCTCAACTCTGCCCAGCCTCACT CTCCTCCAAGGGGCACCATAGAACTGGGAAG AATCCTAGAGCCTGGGTACCTGGGCAGCAGT GGCAAGTGGGATGTGATGAGGCCTCAGAAA GGGAGTGTATCTGGGGACCTATCCTCAGGCT CCTCTGTGTACCAGCTTAACTCCAAACCCAC AGGGGCTGACCTGCTGGAAGAGCATCTTGGT GAAATCCGGAACCTGCGCCAGCGCCTGGAG GAGTCCATCTGCATCAATGACCGCCTACGGG AGCAACTGGAACACCGGC		GFHFHSIPKLASLPQAPLPSAP SSFLPFSPTGPLLLGCCETPV VSLAEAQQELQMLQKQLGES ASTVPPASTATLLSNDLEADS SYYLNSAQPHSPPRGTIELGRI LEPGYLGSSGKWDVMRPQKG SVSGDLSSGSSVYQLNSKPTG ADLLEEHLGEIRNLRQRLEESI CINDRLREQLEHR
Shigella ipaC	5	prey67550	121	ATGCTTACAGAGCTTCTCTTTGAATTACATGT GGCGGCCACACCTGACAAACTCAATAAGGCC ATGAAGAGGGCTCATGACTGGGTGGAAGAG GATCAAACCGTGGTGTCAGTAGATGTGGCAA	322	MLTELLFELHVAATPDKLNKA MKRAHDWVEEDQTVVSVDVA KVSEEETKKEEKEEKSQDPQE DKKEEKKTKTIEEVYMSSIESL

				AAGTGTCCGAAGAAGAAACAAAGAAGGAAGA AAAGGAAGAGAAATCTCAAGACCCTCAAGAA GACAAAAAGGAGGAAAAGAAAACTAAGACCA TAGAGGAAGTATACATGTCGTCCATTGAAAGT CTGGCGGAGGTAACAGCGCGCTGTATTGAG CAGCTTCATAAAGTAGCAGAATTAATTCTTCA TGGACAAGAAGAGGAAAAACCAGCTCAGGAC CAAGCAAAAGTTCTAATAAAATTAACTACTGC AATGTGCAATGAAGTGGCCTCTTTATCAAAGA AGTTTACGAATTCTTTAACCACTGTTGGGAGC AACAAGAAGGCCGAGGTCCTTAACCCCATGA TCAGTAGTGTATTGTTAGAGGGCTGCA		AEVTARCIEQLHKVAELILHGQ EEEKPAQDQAKVLIKLTTAMC NEVASLSKKFTNSLTTVGSNK KAEVLNPMISSVLLEGC
Shigella ipaC	5	prey8889	122	GTTCCAGAACAGACAGGTGCAGAGCCTGCTG GAGCTGCGGGAGGCCCAGGTGGACGCAGAG GCCCAGCGGAGGCTGGAACACCTGAGACAG GCTCTGCAGCGGCTCAGGGAGGTCGTCCTT GATGCAAACACAACTCAGTTCAAGAGGCTGA AAGAGATGAACGAGAGGGAGAAGAAGGAGC TGCAGAAGATCCTGGACAGAAAGCGCCATAA CAGCATCTCGGAGGCCAAGATGAGGGACAA GCATAAGAAGGAGGCGGAACTGACGGAGAT TAACCGTCGGCACATCACTGAGTCAGTCAAC TCCATCCGTCGGCTGGAGGAGGCCCAGAAG CAGCGGCATGACCGTCTTGTGGCTGGGCAG CAGCAGGTCCTGCAACAGCTGGCAGAAGAG GAGCCCAAGCTGCTGGCCCAGCTGGCCCAG GAGTGTCAGGAGCAGCGGGCGAGGCTCCCC CAGGAGATCCGCCGGAGCCTGCTGGGCGAG ATGCCGGAGGGGCTGGGGGACGGGCCTCTG GTGGCCTGTGCCAGCAACGGTCACGCACCC GGGAGCAGCGGGCACCTGTCGGGCGCTGAC TCGGAGAGCCAGGAGGAGAACACGCAGCTC TGA	323	FQNRQVQSLLELREAQVDAEA QRRLEHLRQALQRLREVVLDA NTTQFKRLKEMNEREKKELQK ILDRKRHNSISEAKMRDKHKK EAELTEINRRHITESVNSIRRLE EAQKQRHDRLVAGQQQVLQQ LAEEEPKLLAQLAQECQEQRA RLPQEIRRSLLGEMPEGLGDG PLVACASNGHAPGSSGHLSG ADSESQEENTQL*
Shigella ipaC	5	prey11375	123	CTCCTCGGCTGGGGGCTCGGGCAATTCCCG GCCCCCACGCAACCTCCAAGGCTTGCTGCA	324	SSAGGSGNSRPPRNLQGLLQ MAITAGSEEPDPPPEPMSEER

				GATGGCCATCACCGCGGGCTCTGAAGAGCC AGACCCTCCTCCAGAACCGATGAGTGAGGAG AGGCGTCAGTGGCTGCAGGAGGCCATGTCG GCTGCCTTCCGAGGCCAGCGGGAGGAGGTG GAGCAGATGAAGAGCTGCCTCCGAGTGCTGT CACAGCCCATGCCCCCCACTGCTGGGGAGG CCGAGCAGGCGGCCGACCAGCAAGAGCGAG AGGGGGCCCTGGAGCTGCTGGCCGACCTGT GTGAGAACATGGACAATGCCGCAGACTTCTG CCAGCTGTCTGGCATGCACCTGCTGGTGGG CCGGTACCTGGAGGCGGGGGCTGCGGGACT GCGGTGGCGGGCGGCACAGCTCATCGGCAC GTGCAGTCAGAACGTGGCAGCCATCCAGGA GCAGGTGCTGGGCCTGGGTGCCCTGCGTAA GCTGCTGCGGCTGCTGGACCGCGACGCCTG CGACACGGTGCGCGTCAAGGCCCTCTTCGC CATCTCCTGTCTGGTCCGAGAGCAGGAGGCT GGGCTGCTGCAGTTCCTCCGCCTGGACGGC TTCTCTGTGTTGATGAGGGCCATGCAGCAGC AGGTGCAGAAGCTCAAGGTCAAATCAGCATT CCTGCTGCAGAACCTGCTGGTGGGCCACCC TGAACACAAAGGGACCC		RQWLQEAMSAAFRGQREEVE QMKSCLRVLSQPMPPTAGEA EQAADQQEREGALELLADLCE NMDNAADFCQLSGMHLLVGR YLEAGAAGLRWRAAQLIGTCS QNVAAIQEQVLGLGALRKLLR LLDRDACDTVRVKALFAISCLV REQEAGLLQFLRLDGFSVLMR AMQQQVQKLKVKSAFLLQNLL VGHPEHKGT
Shigella ipaC	5	prey67473	124	ATGGCAGAGAAGGTGCTGGTAACAGGTGGG GCTGGCTACATTGGCAGCCACACGGTGCTG GAGCTGCTGGAGGCTGGCTACTTGCCTGTG GTCATCGATAACTTCCATAATGCCTTCCGTGG AGGGGGCTCCCTGCCTGAGAGCCTGCGGCG GGTCCAGGAGCTGACAGGCCGCTCTGTGGA GTTTGAGGAGATGGACATTTTGGACCAGGGA GCCCTACAGCGTCTCTTCAAAAAGTACAGCT TTATGGCGGTCATCCACTTTGCGGGGCTCAA GGCCGTGGGCGAGTCGGTGCAGAAGCCTCT GGATTATTACAGAGTTAACCTGACCGGGACC ATCCAGCTTCTGGAGATCATGAAGGCCCACG GGGTGAAGAACCTGGTGTTCAGCAGCTCAGC	325	MAEKVLVTGGAGYIGSHTVLE LLEAGYLPVVIDNFHNAFRGG GSLPESLRRVQELTGRSVEFE EMDILDQGALQRLFKKYSFMA VIHFAGLKAVGESVQKPLDYY RVNLTGTIQLLEIMKAHGVKNL VFSSSATVYGNPQYLPLDEA

				CACTGTGTACGGGAACCCCCAGTACCTGCCC CTTGATGAGGCCCA		
Shigella ipaC	5	prey8929	125	AAAAGTGGTTCAACGGTTGGTAGAGAGAGGA AGATCTTTGGATGATGCAAGGAAGAGAGCCA AGCAGTTCCATGAAGCTTGGAGTAAACTTAT GGAGTGGCTAGAAGAGTCAGAAAAGTCTTTG GATTCTGAACTGGAAATCGCAAATGATCCAG ACAAAATAAAAACACAACTTGCACAACATAAG GAGTTTCAGAAATCACTCGGAGCCAAGCATT CTGTCTACGACACCACCAACAGGACTGGACG TTCTCTGAAGGAGAAAACCTCCCTGGCTGAT GACAACCTGAAACTGGATGACATGCTGAGTG AACTCAGAGACAAATGGGATACCATATGTGG AAAATCTGTGGAAAGACAAAACAAATTGGAG GAAGCCCTGTTATTTTCTGGACAATTCACAGA TGCCCTACAGGCTCTCATTGATTGGTTATATA GAGTTGAACCCCAGCTGGCAGAAGACCAGC CTGTTCATGGAGACATTGATTTGGTGATGAAT CTGATCGATAATCACAAGGCCTTCCAAAAAG AGTTGGGGAAGAGGACCAGCAGTGTGCAGG CCCTGAAGCGCTCAGCCCGAGAACTCATAGA AGGCAGTCGGGATGACTCCTCCTGGGTCAA GGTCCAGATGCAGGAATTAAGCACACGCTGG GAGACCGTGTGTGCACTTTCTATATCAAAGC AAACACGGTTAGAAGCAGCCCTGCGTCAGGC AGAGGAATTCCACTCGGTGGTACATGCCCTC TTGGAGTGGCTGGCTGAGGCGGAGCAAACC CTGCGTTTCCATGGTGTCCTCCCAGATGATG AGGATGCTCTCCGGACTCTCATTGATCAGCA TAAAGAAT	326	KVVQRLVERGRSLDDARKRA KQFHEAWSKLMEWLEESEKS LDSELEIANDPDKIKTQLAQHK EFQKSLGAKHSVYDTTNRTGR SLKEKTSLADDNLKLDDMLSE LRDKWDTICGKSVERQNKLEE ALLFSGQFTDALQALIDWLYR VEPQLAEDQPVHGDIDLVMNL IDNHKAFQKELGKRTSSVQAL KRSARELIEGSRDDSSWVKVQ MQELSTRWETVCALSISKQTR LEAALRQAEEFHSVVHALLEW LAEAEQTLRFHGVLPDDEDAL RTLIDQHKE
Shigella ipaC	5	prey3488	126	GCTGACTCATACCGAAGAGTTGTTAGATGCT CAGAGACCAATAAGTGGAGACCCAAAAGTCA TTGAAGTTGAGCTCGCAAAGCACCATGTCCT AAAAAATGATGTTTTGGCTCATCAAGCCACAG TGGAAACAGTCAACAAAGCTGGCAATGAGCT	327	LTHTEELLDAQRPISGDPKVIE VELAKHHVLKNDVLAHQATVE TVNKAGNELLESSAGDDASSL RSRLEAMNQCWESVLQKTEE REQQLQSTLQQAQGFHSEIED

				TCTTGAATCCAGTGCTGGAGATGATGCCAGC AGCTTAAGGAGCCGTTTGGAAGCCATGAACC AATGCTGGGAGTCAGTGTTACAGAAAACAGA GGAGAGGGAGCAGCAGCTTCAGTCAACTCT GCAGCAGGCCCAGGGCTTCCACAGTGAAATT GAAGATTTCCTCTTGGAACTTACTAGAATGGA GAGCCAGCTTTCTGCATCTAAGCCCACAGGA GGACTTCCTGAAACTGCTAGGGAACAGCTTG ATACACATATGGAACTCTATTCCCAGCTGAAA GCCAAGGAAGAGACTTATAATCAACTACTTGA CAAGGGCAGACTCATGCTTCTAAGCCGTGAC GACTCTGGGTCTGGCTCCAAGACAGAACAGA GTGTAGCACTTTTGGAGCAGAAGTGGCATGT GGTCAGCAGTAAGATGGAAGAAAGAAAGTCA AAGCTGGAAGAGGCCCTCAACTTGGCAACAG AATTCCAGAATTCCCTACAAGAATTTATCAAC TGGCTCACTCTAGCAGAGCAGAGTTTAAACA TCGCTTCTCCACCAAGCCTGATTCTAAATACT GTCCTTTCCCAGATAGAAGAGCACAAGGTTT TTGCTAATGAAGTAAATGCTCATCGAGACCA GATCATTGAGCTGGATCAAACTGGGAATCAA TTAAAGTTCCTTAGCCAAAAGCAGGATGTTGT TCTGATCAAGAATTTGTTGGTGAGCGTGCAG TCTCGATGGGAGAAGGTTGTCCAGCGATCTA TTGAAAGAGGGCGATCACTAGATGATGCCAG GAAGCGGGCAAAACAATTCCATGAAGCTTGG AAAAAACTGATTGACTGGCTAGAAGATGCAG AGAGTCACCTGGACTCAGAACTAGAGATATC CAATGACCCAGACAAAATTAAACTTCAGCTTT CTAAGCATAAGGAGTTTCAGAAGACTCTTGG TGGCAAGCAGCCTGTGTATGATACCACAATT AGAACTGGCAGAGCACTGAAAGAAAAGACTT TGCTTCCCGAAGATACTCAGAAACTTGACAAT TTCCTAGGAGAAGTCAGAGACAAATGGGATA CTGTTTGTGGCAAGTCTGTGGAGCGGCAGCA CAAGTTGGAGGAAGCCCTGCTCTTTTCGGGT		FLLELTRMESQLSASKPTGGL PETAREQLDTHMELYSQLKAK EETYNQLLDKGRLMLLSRDDS GSGSKTEQSVALLEQKWHVV SSKMEERKSKLEEALNLATEF QNSLQEFINWLTLAEQSLNIAS PPSLILNTVLSQIEEHKVFANE VNAHRDQIIELDQTGNQLKFLS QKQDVVLIKNLLVSVQSRWEK VVQRSIERGRSLDDARKRAKQ FHEAWKKLIDWLEDAESHLDS ELEISNDPDKIKLQLSKHKEFQ KTLGGKQPVYDTTIRTGRALK EKTLLPEDTQKLDNFLGEVRD KWDTVCGKSVERQHKLEEAL LFSGQFMDALQALVDWLYKV EPQLAEDQPVHGDLDLVMNL MDAHKVFQKELGKRTGTVQV LKRSGRELIENSRDDTTWVKG QLQELSTRWDTVCKLSVSKQ SRLEQALKQAEVFRDTVHMLL EWLSEAEQTLRFRGALPDDTE ALQSLIDT

				CAGTTCATGGATGCTTTGCAGGCATTGGTTG ACTGGTTATACAAGGTGGAGCCACAGCTGGC TGAGGACCAGCCCGTGCACGGGGACCTTGA CCTCGTCATGAACCTCATGGATGCACACAAG GTTTTCCAGAAGGAACTGGGAAAGCGAACAG GAACCGTTCAGGTCCTGAAGCGGTCAGGCC GAGAGCTGATTGAGAATAGTCGAGATGACAC CACTTGGGTAAAAGGACAGCTCCAGGAACTG AGCACTCGCTGGGACACTGTCTGTAAACTCT CTGTTTCCAAACAAAGCCGGCTTGAGCAGGC CTTAAAACAAGCGGAAGTGTTTCGAGACACA GTCCACATGCTGTTGGAGTGGCTTTCTGAAG CAGAGCAAACGCTTCGCTTTCGGGGAGCACT TCCTGATGACACAGAGGCCCTGCAGTCTCTC ATTGACACCC		
Shigella ipaC	5	prey3514	127	GGAAAAAGAAGAGCTGCCACGTGCCGTGGG TACCCAGACATTGAGTGGTGCTGGTCTCCTC AAGATGTTCAACAAAGCCACAGATGCCGTCA GCAAAATGACCATCAAGATGAATGAATCAGA CATTTGGTTTGAGGAGAAGCTCCAGGAGGTA GAGTGTGAGGAGCAGCGCTTACGGAAACTG CATGCTGTTGTAGAAACTCTAGTCAACCATAG GAAAGAGCTAGCGCTGAACACAGCCCAGTTT GCAAAGAGTCTAGCCATGCTTGGGAGCTCTG AGGACAACACGGCATTGTCACGGGCACTCTC CCAGCTGGCTGAGGTGGAAGAAAAAATTGAG CAGCTCCACCAGGAACAGGCCAACAATGACT TCTTCCTCCTTGCTGAGCTCCTGAGTGACTA CATTCGCCTCCTGGCCATAGTCCGCGCTGCC TTCGACCAGCGCATGAAGACATGGCAGCGCT GGCAGGATGCCCAAGCCACACTGCAGAAGA AGCGGGAGGCCGAGGCTCGGCTGCTGTGGG CCAACAAGCCTGATAAGCTGCAGCAGGCCAA GGACGAGATCCTCGAGTGGGAGTCTCGGGT GACTCAATATGAAAGGGACTTCGAGAGGATT	328	EKEELPRAVGTQTLSGAGLLK MFNKATDAVSKMTIKMNESDI WFEEKLQEVECEEQRLRKLH AVVETLVNHRKELALNTAQFA KSLAMLGSSEDNTALSRALSQ LAEVEEKIEQLHQEQANNDFF LLAELLSDYIRLLAIVRAAFDQR MKTWQRWQDAQATLQKKRE AEARLLWANKPDKLQQAKDEI LEWESRVTQYERDFERISTVV RKEVIRFEKEKSKDFKNHVIKY LETLLYSQQQLAKYWEAFLPE AKAIS*

				TCAACAGTGGTCCGAAAAGAAGTGATACGGT TTGAGAAAGAGAAATCCAAGGACTTCAAGAA CCACGTGATCAAGTACCTTGAGACACTCCTTT ACTCACAGCAGCAGCTGGCAAAGTACTGGGA AGCCTTCCTTCCTGAGGCAAAGGCCATCTCC TAA		
Shigella ipaC	5	prey5814	128	TGATGCCCCACCACAGCTTGAAGATGAGGAA CCTGCATTTCCACATACTGACTTGGCCAAGTT GGATGACATGATCAACAGGCCTCGATGGGTG GTTCCAGTTTTGCCGAAAGGGGAATTAGAAG TGCTTTTAGAAGCTGCTATTGATCTTAGTAAA AAGGGCCTTGATGTTAAAAGTGAAGCATGTC AGCGATTTTTCCGTGATGGGCTAACAATATCA TTCACTAAAATTCTTACAGATGAAGCAGTGAG TGGCTGGAAGTTTGAAATTCATAGGTGTCTG GTGGAGCTATGTGTGGCCAAGTTGTCCCAAG ACTGGTTTCCACTTTTAGAACTTCTTGCCATG GCCTTAAATCCTCATTGCAAATTCCATATCTA CAATGGTACACGTCCATGTGAATCAGTTTCCT CAAGTGTTCAGTTGCCTGAAGATGAACTCTTT GCTCGTTCTCCAGATCCTCGATCACCAAAGG GTTGGCTAGTGGATCTTCTCAACAAATTTGGC ACTTTAAATGGGTTCCAGATTTTGCATGATCG TTTTATTAATGGATCAGCATTAAACGTTCAAAT AATTGCAGCCCTTATTAAACCATTTGGGCAAT GCTATGAGTTTCTCACTCTTCATACAGTGAAA AAGTACTTTCTTCCAATAATAGAAATGGTTCC ACAGTTTTTAGAAAACTTAACTGATGAAGAAC TGAAAAAAGAAGCAAAGAATGAAGCCAAAAA TGATGCTCTTTCAATGATTATTAAATCTTTGAA GAATTTAGCTTCAAGGGTTCCAGGACAAGAA GAAACTGTTAAAAACTTAGAAATATTTAGGTT AAAAATGATACTTAGATTATTGCAAATTTCTTC TTTCAATGGAAAGATGAATGCACTGAATGAAG TTAATAAGGTGATATCTAGTGTATCATACTAT	329	DAPPQLEDEEPAFPHTDLAKL DDMINRPRWVVPVLPKGELEV LLEAAIDLSKKGLDVKSEACQR FFRDGLTISFTKILTDEAVSGW KFEIHRCLVELCVAKLSQDWF PLLELLAMALNPHCKFHIYNGT RPCESVSSSVQLPEDELFARS PDPRSPKGWLVDLLNKFGTLN GFQILHDRFINGSALNVQIIAAL IKPFGQCYEFLTLHTVKKYFLPI IEMVPQFLENLTDEELKKEAKN EAKNDALSMIIKSLKNLASRVP GQEETVKNLEIFRLKMILRLLQI SSFNGKMNALNEVNKVISSVS YYTHRHGNPEEEEWLTAERM AEWIQQNNILSIVLRDSLHQPQ YVEKLEKILRFVIKEKALTLQDL DNIWAAQAGKHEAIVKNVHDL LAKLAWDFSPEQLDHPFDCFK ASRTNASKKQREKLLELIRRLA EDDKDGVMAHRVLNLLWNLA HSDDVPVDIMDLALSAHIKILD YSCSQDRDTQKIQWIDRFIEEL RTNDKWVIPALKQIREICSLFG EAPQNLSQTQRSPHVFYR

				ACTCATCGACATGGTAATCCTGAGGAGGAAG AGTGGCTCACAGCTGAACGAATGGCAGAATG GATACAGCAGAACAATATCTTATCCATAGTGT TGCGAGATAGTCTTCATCAGCCACAGTATGT AGAAAAGTTAGAGAAGATTCTTCGTTTTGTCA TCAAAGAAAAAGCTCTGACCTTACAGGATCTT GATAATATCTGGGCAGCACAGGCAGGGAAAC ATGAAGCCATTGTGAAGAATGTACATGATCTC CTGGCAAAATTGGCATGGGATTTTTCTCCTGA ACAACTTGATCATCCTTTTGATTGTTTTAAGG CCAGTCGGACAAATGCGAGTAAAAAGCAACG TGAAAAGCTACTTGAGCTGATACGTCGTCTT GCAGAAGATGATAAAGATGGTGTGATGGCAC ACAGAGTGTTGAACCTTCTGTGGAATCTGGC TCACAGTGATGATGTGCCTGTAGATATCATG GACCTGGCTCTCAGTGCCCACATAAAAATAC TAGATTACAGTTGCTCCCAGGACCGTGATAC ACAAAAGATCCAATGGATAGATCGCTTTATAG AAGAACTTCGCACAAATGACAAATGGGTTATT CCCGCACTGAAACAAATTAGAGAAATTTGTAG TTTGTTTGGTGAAGCGCCTCAAAATTTGAGTC AAACTCAGCGAAGTCCCCATGTGTTTTATCG CCA		
Shigella ipaC	5	prey5814	129	CCATGCCAAACTTGGAGAAAGCAGCCTTAGT CCATCTCTTGACTCACTTTTCTTTGGTCCTTC AGCCTCACAAGTGCTATATCTAACAGAGGTA GTCTATGCCTTGTTAATGCCTGCTGGTGCAC CTCTGGCTGATGATTCCTCTGATTTTCAGTTT CACTTCTTGAAAAGTGGTGGCCTACCCCTTG TACTGAGTATGCTAACCAGAAATAACTTCCTA CCGAATGCAGATATGGAAACTCGAAGGGGTG CCTACCTCAATGCTCTTAAAATAGCCAAGCTT TTGCTAACTGCCATTGGCTATGGTCATGTTCG AGCTGTGGCAGAAGCTTGTCAGCCAGGTGTA GAAGGTGTGAATCCCATGACACAGATCAACC	330	HAKLGESSLSPSLDSLFFGPS ASQVLYLTEVVYALLMPAGAP LADDSSDFQFHFLKSGGLPLV LSMLTRNNFLPNADMETRRG AYLNALKIAKLLLTAIGYGHVR AVAEACQPGVEGVNPMTQIN QVTHDQAVVLQSALQSIPNPS SECMLRNVSVRLAQQISDEAS RYMPDICVIRAIQKIIWASGCG SLQLVFSPNEEITKIYEKTNAG NEPDLEDEQVCCEALEVMTLC FALIPTALDALSKEKAWQTFIID

				AAGTTACCCATGATCAAGCAGTGGTGCTACA		LLLHCHSKTVRQVAQEQFFLM
				AAGTGCCCTTCAGAGCATTCCTAATCCATCAT		CTRCCMGHRPLLFFITLLFTVL
				CCGAGTGCATGCTTAGAAATGTGTCAGTTCG		GSTARERAKHSGDYFTLLRHL
				TCTTGCTCAGCAGATATCTGATGAGGCTTCAA		LNYAYNSNINVPNAEVLFNNEI
				GATATATGCCTGATATTTGTGTAATTAGAGCT		DWLKRIRDDVKRTGETGIEETI
				ATACAAAAAATTATCTGGGCATCAGGATGTG		LEGHLGVTKELLAFQTSEKKF
				GGTCGTTACAGCTAGTATTTAGCCCAAATGAA		HIGCEKGGANLIKELIDDFIFPA
				GAAATCACTAAAATTTATGAGAAGACCAATGC		SNVYLQYMRNGELPAEQAIPV
				AGGCAATGAGCCAGACTTGGAAGACGAACAG		CGSPPTINAGFELLVALAVGC
				GTTTGCTGTGAAGCATTGGAAGTGATGACCT		VRNLKQIVDSLTEMYYIGTAITT
				TATGTTTTGCCTTGATTCCAACAGCCTTAGAT		CEALTEWEYLPPVGPRPPKGF
				GCTCTTAGTAAAGAAAAGGCTTGGCAGACAT		VGLKNAGATCYMNSVIQQLYM
				TCATCATTGACTTACTATTGCACTGTCACAGC		IPSIRNGILAIEGTGSDVDDDM
				AAAACTGTTCGTCAGGTGGCACAGGAGCAGT		SGDEKQDNESNVDPRDDVFG
				TCTTTTTAATGTGCACCAGATGTTGCATGGGA		YPQQFEDKPALSKTEDRKEYN
				CACCGGCCTCTACTTTTCTTCATTACTCTACT		IGVLRHLQVIFGHLAASRLQYY
				CTTTACTGTTTTGGGGAGCACAGCAAGAGAG		VPRGFWKQFRLWGEPVNLRE
				AGAGCTAAACACTCAGGCGACTACTTTACTCT		QHDALEFFNSLVDSLDEALKA
				TTTAAGACACCTTCTTAATTACGCTTACAATA		LGHPAMLSKVLGGSFADQKIC
				GTAATATTAATGTACCCAATGCTGAAGTTCTT		QGCPHRYECEESFTTLNVDIR
				TTCAATAATGAAATTGATTGGCTTAAAAGAAT		NHQNLLDSLEQYVKGDLLEGA
				TAGGGATGATGTTAAAAGAACAGGAGAAACG		NAYHCEKCNKKVDTVKRLLIK
				GGTATTGAAGAGACGATCTTAGAGGGCCACC		KLPPVLAIQLKRFDYDWEREC
				TTGGAGTGACAAAGGAGTTACTGGCCTTTCA		AIKFNDYFEFPRELDMEPYTV
				AACTTCTGAGAAAAAATTTCATATTGGTTGTG		AGVAKLEGDNVNPESQLIQQS
				AAAAAGGAGGTGCTAATCTCATTAAAGAATTA		EQSESETAGSTKYRLVGVLVH
				ATTGATGATTTCATATTTCCTGCATCCAATGTT		SGQASGGHYYSYIIQRNGGD
				TACCTACAGTATATGAGAAATGGAGAGCTTC		GERNRWYKFDDGDVTECKM
				CAGCTGAACAGGCTATTCCGGTCTGTGGTTC		DDDEEMKNQCFGGEYMGEVF
				ACCACCTACAATTAATGCTGGTTTTGAATTAC		DHMMKRMSYRRQKRWWNAY
				TTGTAGCATTAGCTGTTGGCTGTGTGAGGAA		IPFYERMDTIDQDDELIRYISEL
				TCTCAAACAAATAGTAGATTCTTTGACTGAAA		AITTRPHQIIMPSAIERSVRKQ
				TGTATTACATTGGCACAGCAATAACTACTTGT		NVQFMHNRMQYSMEYFQFM
				GAAGCACTTACTGAGTGGGAATATCTGCCAC		KKLLTCNGVYLNPPPGQDHLL
				CTGTTGGACCCCGCCCACCCAAAGGATTCGT		PEAEEITMISIQLAARFLFTTGF
				GGGGCTGAAAAATGCCGGTGCTACTTGTTAC		HTKKVVRGSASDWYDALCILL

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				ATGAATTCTGTGATTCAGCAACTCTACATGAT TCCTTCCATTAGGAACGGTATTCTTGCCATTG AAGGCACAGGTAGTGATGTAGATGATGATAT GTCTGGGGATGAGAAGCAGGACAATGAGAG CAATGTTGATCCCAGGGATGATGTATTTGGAT ATCCTCAACAATTTGAAGATAAACCAGCATTA AGTAAAACTGAAGATAGAAAAGAGTACAACAT TGGTGTCCTAAGACACCTTCAGGTCATCTTTG GTCATTTAGCTGCTTCTCGACTGCAATACTAT GTGCCCAGAGGATTTTGGAAACAGTTCAGGC TTTGGGGTGAGCCTGTTAATCTGCGTGAACA ACACGATGCTTTAGAATTTTTTAATTCATTGGT GGATAGTTTAGATGAAGCTTTAAAAGCTTTAG GACATCCAGCTATGCTAAGTAAAGTCTTAGG AGGTTCCTTTGCTGATCAGAAGATCTGCCAA GGCTGCCCACATAGGTACGAATGTGAAGAAT CTTTTACGACCCTAAACGTAGACATTAGAAAT CACCAAAATCTTCTTGATTCTTTGGAACAGTA TGTCAAAGGAGATTTACTAGAAGGTGCAAAT GCATATCATTGTGAAAAATGCAATAAAAAGGT TGATACCGTAAAGCGCTTGCTGATTAAAAAAT TACCTCCTGTTCTTGCTATACAACTAAAGCGA TTTGACTATGACTGGGAAAGAGAATGTGCAA TCAAGTTCAATGATTATTTTGAATTTCCTCGA GAGCTGGACATGGAACCTTACACAGTTGCAG GTGTCGCAAAGCTGGAAGGGGATAATGTAAA CCCAGAGAGTCAGTTGATACAACAGAGTGAG CAGTCTGAAAGTGAGACAGCAGGAAGCACAA AATACAGACTTGTGGGTGTGCTCGTACACAG TGGTCAAGCGAGTGGGGGGCATTATTATTCT TACATCATCCAAAGGAATGGTGGAGATGGTG AGAGAAATCGCTGGTATAAATTTGATGATGGT GATGTAACAGAATGTAAAATGGATGATGACG AAGAAATGAAAAACCAGTGTTTTGGTGGAGA GTACATGGGAGAAGTGTTTGATCACATGATG AAGCGTATGTCATACAGGCGCCAGAAAAGGT		RHSKNVRFWFAHNVLFNVSN RFSEYLLECPSAEVRGAFAKLI VFIAHFSLQDGPCPSPFASPG PSSQAYDNLSLSDHLLRAVLN LLRREVSEHGRHLQQYFNLFV MYANLGVAEKTQLLKLSVPAT FMLVSLDEGPGPPIKYQYAEL GKLYSVVSQLIRCCNVSSRMQ SSINGNPPLPNPFGDPNLSQPI MPIQQNVADILFVRTSYVKKIIE DCSNSEETVKLLRFCCWENP QFSSTVLSELLWQVAYSYPYE LRPYLDLLLQILLIEDSWQTHRI HNALKGIPDDRDGLFDTIQRS KNHYQKRAYQCIKCMVALFSN CPVAYQILQGNGDLKRKWTW AVEWLGDELERRPYTGNPQY TYNNWSPPVQSNETSNGYFL ERSHSARMTLAKACELCPEEV KKATSVQQIEMEESKEPDDQD APDEHESPPPEDAPLYPHSPG SQYQQNNHVHGQPYTGPAAH HMNNPQRTGQRAQENYEGS EEVSPPQTKDQ*

				GGTGGAATGCTTATATACCTTTTTATGAACGA ATGGACACAATAGACCAAGATGATGAGTTGA TAAGATATATATCAGAGCTTGCTATCACCACC AGACCTCATCAGATTATTATGCCATCAGCCAT TGAGAGAAGTGTACGGAAACAGAACGTACAA TTCATGCATAACCGAATGCAGTACAGTATGG AGTATTTTCAGTTTATGAAAAAACTGCTTACAT GTAATGGCGTTTACTTAAACCCTCCTCCCGG GCAAGATCACCTGTTGCCTGAAGCAGAAGAA ATCACTATGATCAGTATTCAACTTGCTGCTAG GTTCCTCTTTACTACAGGATTTCACACAAAGA AAGTAGTCCGTGGCTCTGCCAGTGATTGGTA TGATGCATTGTGTATTCTCCTTCGTCACAGCA AGAATGTACGTTTTTGGTTTGCTCATAACGTC CTTTTTAATGTTTCAAATCGCTTCTCCGAATA CCTTCTGGAGTGCCCTAGTGCAGAAGTGAGG GGTGCGTTTGCAAAACTTATAGTCTTTATTGC ACATTTTTCCTTGCAAGATGGGCCATGTCCTT CACCTTTTGCCTCTCCTGGACCTTCTAGTCAG GCTTATGACAACTTAAGCTTGAGTGATCACTT ACTAAGAGCAGTACTAAATCTCTTGAGAAGG GAAGTTTCAGAGCATGGGCGTCATTTACAGC AGTATTTCAACCTGTTTGTAATGTATGCCAAT TTAGGTGTGGCAGAGAAGACACAGCTTCTGA AATTGAGTGTACCTGCTACTTTTATGCTTGTG TCTTTAGATGAAGGTCCAGGTCCTCCAATCAA ATACCAGTATGCTGAATTAGGCAAATTATACT CAGTAGTGTCACAGCTGATCCGCTGTTGCAA TGTCTCTTCAAGAATGCAGTCTTCAATCAATG GTAATCCTCCTCTTCCCAATCCTTTTGGTGAT CCTAATTTATCACAACCTATAATGCCAATTCA GCAGAATGTGGCAGACATTTTATTTGTGAGAA CAAGTTATGTGAAGAAAATCATTGAAGACTGC AGTAATTCAGAGGAAACCGTCAAATTGCTTC GTTTTTGCTGCTGGGAGAATCCTCAGTTCTCA TCTACTGTCCTCAGTGAACTTCTCTGGCAGG		

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				TTGCATATTCCTATCCCTATGAACTGCGGCCC TATTTGGATCTGCTTTTGCAAATCTTACTGATT GAGGACTCCTGGCAAACTCACAGAATTCATA ATGCACTGAAAGGAATTCCAGATGACCGAGA TGGGCTGTTTGACACAATCCAGCGCTCTAAG AATCACTATCAAAAAAGAGCATACCAGTGTAT AAAATGTATGGTAGCTCTATTTAGTAACTGTC CTGTTGCTTACCAAATCCTGCAGGGCAATGG AGATCTTAAAAGAAAGTGGACCTGGGCAGTG GAATGGCTTGGAGATGAACTTGAAAGAAGAC CATATACTGGCAATCCTCAGTACACTTACAAC AATTGGTCTCCCCCAGTGCAAAGCAATGAAA CGTCCAATGGTTATTTCTTGGAGAGATCACAT AGTGCTAGGATGACACTTGCAAAAGCTTGTG AACTCTGTCCAGAGGAGGTAAAAAAAGCCAC CAGTGTGCAGCAGATAGAAATGGAAGAGAGC AAAGAGCCAGATGACCAAGATGCTCCAGATG AACATGAGTCGCCTCCACCTGAAGATGCCCC ATTGTACCCCCATTCACCTGGATCTCAGTATC AACAGAATAACCATGTGCATGGACAGCCATA TACAGGCCCAGCAGCACATCACATGAACAAC CCTCAGAGAACTGGCCAACGAGCACAAGAAA ATTATGAAGGCAGTGAAGAAGTATCCCCACC TCAAACCAAGGATCAATGA		
Shigella ipaC	5	prey67479	130	CGATGAGCTCATGAGACATCAGCCCACCCTT AAAACAGATGCAACGACTGCCATCATCAAGT TACTTGAAGAAATCTGTAATCTTGGAAGGGAC CCCAAATACATCTGTCAGAAGCCATCGATCC AGAAGGCAGATGGCACTGCCACTGCTCCTCC CCCAAGGTCTAATCATGCCGCAGAAGAAGCC TCTAGTGAGGATGAGGAGGAAGAGGAAGTAC AGGCCATGCAGAGCTTTAATTCTACCCAGCA AAATGAAACTGAGCCTAATCAGCAGGTTGTT GGTACAGAGGAACGTATTCCTATTCCCCTCA TGGATTACATCCTTAATGTGATGAAATTTGTG	331	DELMRHQPTLKTDATTAIIKLL EEICNLGRDPKYICQKPSIQKA DGTATAPPPRSNHAAEEASSE DEEEEEVQAMQSFNSTQQNE TEPNQQVVGTEERIPIPLMDYI LNVMKFVESILSNNTTDDHCQ EFVNQKGLLPLVTILGLPNLPID FPTSAACQAVAGVCKSILTLSH EPKVLQEGLLQLDSILSSLEPL HR

				GAATCTATTCTGAGCAACAATACAACAGATGA CCACTGCCAGGAATTTGTGAATCAGAAAGGA CTGTTGCCTTTGGTTACCATTTTGGGTCTTCC CAATCTGCCCATTGACTTTCCCACATCTGCTG CCTGTCAGGCTGTTGCAGGTGTCTGCAAATC CATATTGACACTGTCACATGAACCCAAAGTCC TTCAAGAGGGTCTCCTTCAGTTGGACTCCAT CCTCTCCTCCCTGGAGCCCTTACACCGCCC		
Shigella ipaC	5	prey700	131	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGA ACATGAATAGACTACCAGGTTGGGATAAGCA TTCATATGGTTACCATGGGGATGATGGACATT CGTTTTGTTCTTCTGGAACTGGACAACCTTAT GGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGC TTTTACACCAAGAATGGACATAGTTTAGGTAT TGCTTTCACTGACCTACCGCCAAATTTGTATC CTACTGTGGGGCTTCAAACACCAGGAGAAGT GGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGT GGAGAACCAAAATCCAGGCACAGATAGATCG ATTTCCTATCGGAGATCGAGAAGGAGAATGG CAGACCATGATACAAAAAATGGTTTCATCTTA TTTAGTCCACCATGGGTACTGTGCCACAGCA GAGGCCTTTGCCAGATCTACAGACCAGACCG TTCTAGAAGAATTAGCTTCCATTAAGAATAGA CAAAGAATTCAGAAATTGGTATTAGCAGGAA GAATGGGAGAAGCCATTGAAACAACACAACA GTTATACCCAAGTTTACTTGAAAG	332	MGIGLSAQGVNMNRLPGWDK HSYGYHGDDGHSFCSSGTGQ PYGPTFTTGDVIGCCVNLINNT CFYTKNGHSLGIAFTDLPPNLY PTVGLQTPGEVVDANFGQHP FVFDIEDYMREWRTKIQAQID RFPIGDREGEWQTMIQKMVS SYLVHHGYCATAEAFARSTDQ TVLEELASIKNRQRIQKLVLAG RMGEAIETTQQLYPSLLE
Shigella ipaC	5	prey67481	132	AAAACAAGACCAGAAAGCTCCAGATAAAGAG GCCATACTGCGGGCCACCGCCAACCTGCCC TCCTACAACATGGACCGGGCCGCGGTCCAG ACCAACATGAGAGACTTCCAGACAGAACTCC GGAAGATACTGGTGTCTCTCATCGAGGTGGC GCAGAAGCTGTTAGCGCTGAACCCAGATGCG GTGGAATTGTTTAAGAAGGCGAATGCAATGC	333	KQDQKAPDKEAILRATANLPS YNMDRAAVQTNMRDFQTELR KILVSLIEVAQKLLALNPDAVEL FKKANAMLDEDEDERVDEAAL RQLTEMGFPENRATKALQLNH MSVPQAMEWLIEHAEDP

				TGGACGAGGACGAGGATGAGCGTGTGGACG AGGCTGCCCTGCGGCAGCTCACGGAGATGG GCTTTCCGGAGAACAGAGCCACCAAGGCCCT TCAGCTGAACCACATGTCGGTGCCTCAGGCC ATGGAGTGGCTAATTGAACACGCAGAAGACC CG		
Shigella ipaC	5	prey67488	133	CTGTTCATGAAGAGTGAGCGACACGCAGCCG AGGCACAGCTGGCCACAGCAGAGCAGCAGC TACGGGGGCTACGGACCGAGGCGGAAAGGG CTCGCCAGGCCCAGAGCCGGGCCCAGGAGG CTCTGGACAAGGCCAAGGAGAAGGACAAGA AGATCACAGAACTCTCCAAAGAAGTCTTCAAT CTTAAGGAAGCCTTGAAGGAGCAGCCGGCC GCCCTCGCCACCCCTGAGGTGGAGGCTCTC CGTGACCAGGTGAAGGATTTACAGCAGCAGC TGCAGGAAGCTGCCAGGGACCACTCCAGCG TGGTGGCTTTGTACAGAAGCCACCTCCTATA TGCCATTCAG	334	LFMKSERHAAEAQLATAEQQL RGLRTEAERARQAQSRAQEA LDKAKEKDKKITELSKEVFNLK EALKEQPAALATPEVEALRDQ VKDLQQQLQEAARDHSSVVA LYRSHLLYAIQ
Shigella ipaC	5	prey51967	134	TGACCAACTTGTGTTGATATTTGCTGGAAAAA TTTTGAAAGATCAAGATACCTTGAGTCAGCAT GGAATTCATGATGGACTTACTGTTCACCTTGT CATTAAAACACAAAACAGGCCTCAGGATCATT CAGCTCAGCAAACAAATACAGCTGGAAGCAA TGTTACTACATCATCAACTCCTAATAGTAACT CTACATCTGGTTCTGCTACTAGCAACCCTTTT GGTTTAGGTGGCCTTGGGGGACTTGCAGGT CTGAGTAGCTTGGGTTTGAATACTACCAACTT CTCTGAACTACAGAGTCAGATGCAGCGACAA CTTTTGTCTAACCCTGAAATGATGGTCCAGAT CATGGAAAATCCCTTTGTTCAGAGCATGCTCT CAAATCCTGACCTGATGAGACAGTTAATTATG GCCAATCCACAAATGCAGCAGTTGATACAGA GAAATCCAGAAATTAGTCATATGTTGAATAAT CCAGATATAATGAGACAAACGTTGGAACTTG CCAGGAATCCAGCAATGATGCAGGAGATGAT	335	DQLVLIFAGKILKDQDTLSQHG IHDGLTVHLVIKTQNRPQDHSA QQTNTAGSNVTTSSTPNSNST SGSATSNPFGLGGLGGLAGLS SLGLNTTNFSELQSQMQRQLL SNPEMMVQIMENPFVQSMLS NPDLMRQLIMANPQMQQLIQR NPEISHMLNNPDIMRQTLELA RNPAMMQEMMRNQDRALSN LESIPGGYNALRRMYTDIQEP MLSAAQEQFGGNPFASLVSN TSSGEGSQPSRTENRDPLPN PWAPQTSQSSSASSG

				GAGGAACCAGGACCGAGCTTTGAGCAACCTA GAAAGCATCCCAGGGGGATATAATGCTTTAA GGCGCATGTACACAGATATTCAGGAACCAAT GCTGAGTGCTGCACAAGAGCAGTTTGGTGGT AATCCATTTGCTTCCTTGGTGAGCAATACATC CTCTGGTGAAGGTAGTCAACCTTCCCGTACA GAAAATAGAGATCCACTACCCAATCCATGGG CTCCACAGACTTCCCAGAGTTCATCAGCTTC CAGCGGCAC		
Shigella ipaC	5	prey67491	135	AAAGAAAGATGTCAAGCAGCCAGAAGAACTC CCTCCCATCACAACCACAACAACTTCTACTAC ACCAGCTACCAACACCACTTGTACAGCCACG GTTCCACCACAGCCACAGTACAGCTACCACG ACATCAATGTCTATTCCCTTGCGGGCTTGGC ACCACACATTACTCTAAATCCAACAATTCCCT TGTTTCAGGCCCATCCACAGTTGAAGCAGTG TGTGCGTCAGGCAATTGAACGGGCTGTCCAG GAGCTGGTCCATCCTGTGGTGGATCGATCAA TTAAGATTGCCATGACTACTTGTGAGCAAATA GTCAGGAAGGATTTTGCCCTGGATTCGGAGG AATCTCGAATGCGAATAGCAGCTCATCACAT GATGCGTAACTTGACAGCTGGAATGGCTATG ATTACATGCAGGGAACCTTTGCTCATGAGCA TATCTACCAACTTAAAAAACAGTTTTGCCTCA GCCCTTCGTACTGCTTCCCCACAACAAAGAG AAATGATGGATCAGGCAGCTGCTCAATTAGC TCAGGACAATTGTGAGTTGGCTTGCTGTTTTA TTCAGAAGACTGCAGTAGAAAAAGCAGGCCC TGAGATGGACAAGAGATTAGCAACTGAATTT GAGCTGAGAAAACATGCTAGGCAAGAAGGAC GCAGATACTGTGATCCTGTTGTTTTAACATAT CAAGCTGAACGGATGCCAGAGCAAATCAGGC TGAAAGTTGGTGGTGTGGACCCAAAGCAGTT GGCTGTTTACGAAGAGTTTGCACGCAATGTT CCTGGCTTCTTACCTACAAATGACTTAAGTCA	336	KKDVKQPEELPPITTTTTSTTP ATNTTCTATVPPQPQYSYHDI NVYSLAGLAPHITLNPTIPLFQ AHPQLKQCVRQAIERAVQELV HPVVDRSIKIAMTTCEQIVRKD FALDSEESRMRIAAHHMMRNL TAGMAMITCREPLLMSISTNLK NSFASALRTASPQQREMMDQ AAAQLAQDNCELACCFIQKTA VEKAGPEMDKRLATEFELRKH ARQEGRRYCDPVVLTYQAER MPEQIRLKVGGVDPKQLAVYE EFARNVPGFLPTNDLSQPTGF LAQPMKQAWATDDVAQIYDK CITELEQHLHAIPPTLAMNPQA QALRSLLEVVVLSRNSRDAIAA LGLLQKAVEGLLDATSGADAD LLLRY

				GCCCACGGGATTTTTAGCCCAGCCCATGAAG CAAGCTTGGGCAACAGATGATGTAGCTCAGA TTTATGATAAGTGTATTACAGAACTGGAGCAA CATCTACATGCCATCCCACCAACTTTGGCCAT GAACCCTCAAGCTCAGGCTCTTCGAAGTCTC TTGGAGGTTGTAGTTTTATCTCGAAACTCTCG GGATGCCATAGCTGCTCTTGGATTGCTCCAA AAGGCTGTAGAGGGCTTACTAGATGCCACAA GTGGTGCTGATGCTGACCTTCTGCTGCGCTA C		
Shigella ipaC	5	prey323	136	AGACTCTATTCCGACACCCTCCAACATGGAG GAAACGCAACAGAAATCCAATCTAGAGCTGC TCCGCATCTCCCTGCTGCTCATCGAGTCGTG GCTGGAGCCCGTGCGGTTCCTCAGGAGTAT GTTCGCCAACAACCTGGTGTATGACACCTCG GACAGCGATGACTATCACCTCCTAAAGGACC TAGAGGAAGGCATCCAAACGCTGATGGGGA GGCTGGAAGACGGCAGCCGCCGGACTGGGC AGATCCTCAAGCAGACCTACAGCAAGTTTGA CACAAACTCGCACAACCATGACGCACTGCTC AAGAACTACGGGCTGCTCTACTGCTTCAGGA AGGACATGGACAAGGTCGAGACATTCCTGCG CATGGTGCAGTGCCGCTCTGTGGAGGGCAG CTGTGGCTTCTAG	337	DSIPTPSNMEETQQKSNLELL RISLLLIESWLEPVRFLRSMFA NNLVYDTSDSDDYHLLKDLEE GIQTLMGRLEDGSRRTGQILK QTYSKFDTNSHNHDALLKNYG LLYCFRKDMDKVETFLRMVQC RSVEGSCGF*
Shigella ipaC	5	prey67495	137	GCAGCAGTCTCTGTGCTGAAACCCTTCTCCA AGGGCGCGCCTTCTACCTCCAGCCCTGCAAA AGCCCTACCACAGGTGAGAGACAGATGGAAA GACTTAACCCACGCTATTTCCATTTTAGAAAG TGCAAAGGCTAGAGTTACAAATACGAAGACG TCTAAACCAATCGTACATGCCAGAAAAAAATA CCGCTTTCACAAAACTCGCTCCCACGTGACC CACAGAACACCCAAAGTCAAAAAGAGTCCAA AGGTCAGAAAGAAAAGTTATCTGAGTA	338	AAVSVLKPFSKGAPSTSSPAK ALPQVRDRWKDLTHAISILESA KARVTNTKTSKPIVHARKKYR FHKTRSHVTHRTPKVKKSPKV RKKSYLS
Shigella ipaC	5	prey67506	138	GAGAGCCATCCCCAATCAGGGGGAGATCCT GGTGATCCGCAGGGGCTGGCTGACCATCAA	339	RAIPNQGEILVIRRGWLTINNIS LMKGGSKEYWFVLTAESLSW

				CAACATCAGCCTGATGAAAGGCGGCTCCAAG GAGTACTGGTTTGTGCTGACTGCCGAGTCAC TGTCCTGGTACAAGGATGAGGAGGAGAAAGA GAAGAAGTACATGCTGCCTCTGGACAACCTC AAGATCCGTGATGTGGAGAAGGGCTTCATGT CCAACAAGCACGTCTTCGCCATCTTCAACAC GGAGCAGAGAAACGTCTACAAGGACCTGCG GCAGATCGAGCTGGCCTGTGACTCCCAGGA AGACGTGGACAGCTGGAAGGCCTCGTTCCTC CGAGCTGGCGTCTACCCCGAGAAGGACCAG GCAGAAAACGAGGATGGGGCCCAGGAGAAC ACCTTCTCCATGGACCCCCAACTGGAGCGGC AGGTGGAGACCATTCGCAACCTGGTGGACTC ATACGTGGCCATCATCAACAAGTCCATCCGC GACCTCATGCCAAAGACCATCATGCACCTCA TGATCAACAATACGAAGGCCTTCATCCACCA CGAGCTGCTGGCCTACCTATACTCCTCGGCA GACCAGAGCAGCCTCATGGAGGAGTCGGCT GACCAGGCACAGCGGCGGGACGACATGCTG CGCATGTACCATGCCCTCAAGGAGGCGCTCA ACATCATCGGTGACATCAGCACCAGCACTGT GTCCACGCCTGTACCCCCGCC		YKDEEEKEKKYMLPLDNLKIR DVEKGFMSNKHVFAIFNTEQR NVYKDLRQIELACDSQEDVDS WKASFLRAGVYPEKDQAENE DGAQENTFSMDPQLERQVETI RNLVDSYVAIINKSIRDLMPKTI MHLMINNTKAFIHHELLAYLYS SADQSSLMEESADQAQRRDD MLRMYHALKEALNIIGDISTST VSTPVPP
Shigella ipaC	5	prey4578	139	CCAGAAGCAGCTGGAGTCCAATAAGATCCCA GAGCTGGACATGACTGAGGTGGTGGCCCCC TTCATGGCCAACATCCCTCTCCTCCTCTACCC TCAGGACGGCCCCCGCAGCAAGCCCCAGCC AAAGGATAATGGGGACGTTTGCCAGGACTGC ATTCAGATGGTGACTGACATCCAGACTGCTG TACGGACCAACTCCACCTTTGTCCAGGCCTT GGTGGAACATGTCAAGGAGGAGTGTGACCG CCTGGGCCCTGGCATGGCCGACATATGCAA GAACTATATCAGCCAGTATTCTGAAATTGCTA TCCAGATGATGATGCACATGCAACCCAAGGA GATCTGTGCGCTGGTTGGGTTCTGTGATGAG GTGAAAGAGATGCCCATGCAGACTCTGGTCC	340	QKQLESNKIPELDMTEVVAPF MANIPLLLYPQDGPRSKPQPK DNGDVCQDCIQMVTDIQTAVR TNSTFVQALVEHVKEECDRLG PGMADICKNYISQYSEIAIQMM MHMQPKEICALVGFCDEVKE MPMQTLVPAKVASKNVIPALE LVEPIKKHEVPAKSDVYCEVC EFLVKEVTKLIDNNKTEKEILDA FDKMCSKLPKSLSEECQE

				CCGCCAAAGTGGCCTCCAAGAATGTCATCCC TGCCCTGGAACTGGTGGAGCCCATTAAGAAG CACGAGGTCCCAGCAAAGTCTGATGTTTACT GTGAGGTGTGTGAATTCCTGGTGAAGGAGGT GACCAAGCTGATTGACAACAACAAGACTGAG AAAGAAATACTCGACGCTTTTGACAAAATGTG CTCGAAGCTGCCGAAGTCCCTGTCGGAAGA GTGCCAGGAGG		
Shigella ipaC	5	prey1135	140	TGCAGCCTTAGTGGCATCTAAAGTATTTTATC ACCTGGGGGCTTTTGAGGAGTCTCTGAATTA TGCTCTTGGAGCAAGGGACCTCTTCAATGTC AATGATAACTCTGAATATGTGGAAACTATTAT AGCAAAATGCATTGATCACTACACCAAACAAT GTGTGGAAAATGCAGATTTGCCTGAAGGAGA AAAAAAACCAATTGACCAGAGATTGGAAGGC ATCGTAAATAAAATGTTCCAGCGATGTCTAGA TGATCACAAGTATAAACAGGCTATTGGCATTG CTCTGGAGACACGAAGACTGGACGTCTTTGA AAAGACCATACTGGAGTCGAATGATGTCCCA GGAATGTTAGCTTATAGCCTTAAGCTCTGCAT GTCTTTAATGCAGAATAAACAGTTTCGGAATA AAGTACTAAGAGTTCTAGTTAAAATCTACATG AACTTGGAGAAACCTGATTTCATCAATGTTTG TCAGTGCTTAATTTTCTTAGATGATCCTCAGG CTGTGAGTGATATCTTAGAGAAACTGGTAAA GGAAGACAACCTCCTGATGGCATATCAGATT TGTTTTGATTTGTATGAAAGTGCTAGCCAGCA GTTTTTGTCATCTGTAATCCAGAATCTTCGAA CTGTTGGCACCCCTATTGCTTCTGTGCCTGG ATCCACTAATACGGGTACTGTTCCGGGATCA GAGAAAGACAGTGACTCGATGGAAACAGAAG AAAAGACAAGCAGTGCATTTGTAGGAAAGAC AC	341	AALVASKVFYHLGAFEESLNY ALGARDLFNVNDNSEYVETIIA KCIDHYTKQCVENADLPEGEK KPIDQRLEGIVNKMFQRCLDD HKYKQAIGIALETRRLDVFEKTI LESNDVPGMLAYSLKLCMSLM QNKQFRNKVLRVLVKIYMNLE KPDFINVCQCLIFLDDPQAVSD ILEKLVKEDNLLMAYQICFDLY ESASQQFLSSVIQNLRTVGTPI ASVPGSTNTGTVPGSEKDSD SMETEEKTSSAFVGKT
Shigella ipaC	5	prey67465	141	CACTGCGCCGCTGCCCATGATGCCCGTGGC CGAGGACGAGATCAAGCCCTACATCAGCCG	342	TAPLPMMPVAEDEIKPYISRCS VCEAPAIAIAVHSQDVSIPHCP

				CTGTTCTGTGTGTGAGGCCCCGGCCATCGCC ATCGCGGTCCACAGTCAGGATGTCTCCATCC CACACTGCCCAGCTGGGTGGCGGAGTTTGT GGATCGGATATTCCTTCCTCATGCACACGGC GGCGGGAGACGAAGGCGGTGGCCAATCACT GGTGTCACCGGGCAGCTGTCTAGAGGACTTC CGCGCCACACCATTCATCGAATGCAATGGAG GCCGCGGCACCTGCCACTACTACGCCAACAA GTACAGCTTCTGGCTGACCACCATTCCCGAG CAGAGCTTCCAGGGCTCGCCCTCCGCCGAC ACGCTCAAGGCCGGCCTCATCCGCACACACA TCAGCCGCTGCCAGGTGTGCATGAAGAACCT GTGA		AGWRSLWIGYSFLMHTAAGD EGGGQSLVSPGSCLEDFRAT PFIECNGGRGTCHYYANKYSF WLTTIPEQSFQGSPSADTLKA GLIRTHISRCQVCMKNL*
Shigella ipaC	5	prey28880	142	AAGATCAAGTGGCTTACCTTATCCAACAAAAT GTTATCCCACCTTTTTGCAACTTGCTGACTGT AAAAGATGCACAAGTTGTGCAAGTAGTACTC GATGGACTAAGTAATATATTAAAAATGGCTGA AGATGAGGCAGAAACCATAGGCAATCTTATA GAAGAATGTGGAGGGCTGGAGAAAATTGAAC AACTTCAAAATCATGAAAATGAAGACATCTAC AAATTGGCCTATGAGATCATTGATCAGTTCTT CTCTTCAGATGATATTGATGAAGACCCTAGCC TTGTTCCAGAGGCAATTCAAGGCGGAACATT TGGTTTCAATTCATCTGCCAATGTACCAACAG AAGGGTTCCAGTTTTAG	343	DQVAYLIQQNVIPPFCNLLTVK DAQVVQVVLDGLSNILKMAED EAETIGNLIEECGGLEKIEQLQ NHENEDIYKLAYEIIDQFFSSD DIDEDPSLVPEAIQGGTFGFNS SANVPTEGFQF*
Shigella ipaC	5	prey3599	143	GGCAGTTATTGAGATGTGTCAGTTACTGGTC ATGGGAAATGAGGAGACACTGGGAGGGTTTC CTGTCAAGAGTGTTGTTCCAGCTTTGATTACG TTACTTCAGATGGAGCACAATTTTGATATTAT GAACCATGCTTGTCGAGCCTTAACATACATG ATGGAAGCACTTCCTCGATCTTCTGCTGTTGT AGTAGATGCTATTCCTGTCTTTTTAGAAAAGC TGCAAGTTATTCAGTGTATTGATGTGGCAGA GCAGGCCTTGACTGCCTTGGAGATGTTGTCA CGGAGACATAGTAAAGCCATTCTACAGGCGG	344	AVIEMCQLLVMGNEETLGGFP VKSVVPALITLLQMEHNFDIMN HACRALTYMMEALPRSSAVVV DAIPVFLEKLQVIQCIDVAEQAL TALEMLSRRHSKAILQAGGLA DCLLYLEFFSINAQRNALAIAA NCCQSITPDEFHFVADSLPLLT QRLTHQDKKSVESTCLCFARL VDNFQHEENLLQQVASKDLLT NVQQLLVVTPPILSSGMFIMVV

				GTGGTTTGGCAGACTGCTTGCTGTACCTAGA		RMFSLMCSNCPTLAVQLMKQ
				ATTCTTCAGCATAAATGCCCAAAGAAATGCAT		NIAETLHFLLCGASNGSCQEQI
				TAGCAATTGCAGCTAATTGCTGCCAGAGTAT		DLVPRSPQELYELTSLICELMP
				CACGCCAGATGAATTTCATTTTGTGGCAGATT		CLPKEGIFAVDTMLKKGNAQN
				CACTCCCATTGCTAACCCAAAGGCTAACACA		TDGAIWQWRDDRGLWHPYN
				TCAGGATAAAAAGTCAGTAGAAAGCACTTGC		RIDSRIIEQINEDTGTARAIQRK
				CTTTGTTTTGCACGCCTAGTGGACAACTTCCA		PNPLANSNTSGYSESKKDDAR
				GCATGAGGAGAATTTACTCCAGCAGGTTGCT		AQLMKEDPELAKSFIKTLFGVL
				TCCAAAGATCTGCTTACAAATGTTCAACAGCT		YEVYSSSAGPAVRHKCLRAIL
				GTTGGTAGTGACTCCACCCATTTTAAGTTCTG		RIIYFADAELLKDVLKNHAVSS
				GGATGTTTATAATGGTGGTTCGCATGTTTTCT		HIASMLSSQDLKIVVGALQMA
				CTGATGTGTTCCAACTGTCCAACTTTAGCTGT		EILMQKLPDIFSVYFRREGVM
				TCAACTTATGAAACAAAACATTGCAGAAACGC		HQVKHLAESESLLTSPPKACT
				TTCACTTTCTCCTGTGTGGTGCCTCCAATGGA		NGSGSMGSTTSVSSGTATAA
				AGTTGTCAGGAACAGATTGATCTTGTTCCAC		THAAADLGSPSLQHSRDDSLD
				GAAGCCCTCAAGAGTTGTATGAACTGACATC		LSPQGRLSDVLKRKRLPKRGP
				TCTGATTTGTGAACTTATGCCATGTTTACCAA		RRPKYSPPRDDDKVDNQAKS
				AAGAAGGCATTTTTGCAGTTGATACCATGTTG		PTTTQSPKSSFLASLNPKTWG
				AAGAAGGGAAATGCACAGAACACAGATGGTG		RLSTQSNSNNIEPARTAGGSG
				CGATATGGCAGTGGCGTGATGATCGGGGCC		LARAASKDTISNNREKIKGWIK
				TCTGGCATCCATATAACAGGATTGACAGCCG		EQAHKFVERYFSSENMDGSN
				GATCATTGAGCAAATCAATGAGGACACGGGA		PALNVLQRLCAATEQLNLQVD
				ACAGCACGTGCCATTCAGAGAAAACCTAACC		GGAECLVEIRSIVSESDVSSFE
				CGTTAGCCAATAGTAACACTAGTGGATATTCA		IQHSGFVKQLLLYLTSKSEKDA
				GAGTCAAAGAAGGATGATGCTCGAGCACAGC		VSREIRLKRFLHVFFSSPLPGE
				TTATGAAAGAGGATCCGGAACTGGCTAAGTC		EPIGRVEPVGNAPLLALVHKM
				TTTTATTAAGACATTATTTGGTGTTCTTTATGA		NNCLSQMEQFPVKVHDFPSG
				AGTGTATAGTTCCTCAGCAGGACCTGCGGTC		NGTGGSFSLNRGSQALKFFNT
				AGACATAAGTGCCTTAGAGCAATTCTTAGGAT		HQLKCQLQRHPDCANVKQWK
				AATTTATTTTGCGGATGCTGAACTTCTGAAGG		GGPVKIDPLALVQAIERYLVVR
				ATGTTCTGAAAAATCATGCTGTTTCAAGTCAC		GYGRVREDDEDSDDDGSDEE
				ATTGCTTCCATGCTGTCAAGCCAAGACCTGA		IDESLAAQFLNSGNVRHRLQF
				AGATAGTAGTGGGAGCACTTCAGATGGCAGA		YIGEHLLPYNMTVYQAVRQFSI
				AATTTTAATGCAGAAGTTACCTGATATTTTTAG		QAEDERESTDDESNPLGRAGI
				TGTTTACTTCAGAAGAGAAGGTGTAATGCATC		WTKTHTIWYKPVREDEESNKD
				AAGTAAAACACTTAGCAGAATCAGAGTCTTTG		CVGGKRGRAQTAPTKTSPRN

				TTGACAAGTCCACCAAAGGCATGTACGAATG GATCGGGATCCATGGGATCCACAACTTCAGT CAGCAGTGGGACAGCCACAGCTGCCACTCAT GCTGCAGCTGACTTGGGATCACCCAGCTTGC AGCACAGCAGGGATGATTCTTTAGATCTCAG CCCTCAAGGTCGATTAAGTGATGTTCTAAAGA GAAAACGACTGCCAAAACGAGGGCCAAGAA GGCCAAAGTACTCACCTCCAAGAGATGATGA CAAAGTAGACAATCAAGCTAAAAGCCCCACC ACTACTCAGTCACCTAAATCTTCTTTCCTGGC AAGCTTGAATCCAAAAACATGGGGAAGGTTA AGTACACAGTCCAACAGCAACAACATTGAGC CAGCACGGACTGCGGGAGGTAGTGGCCTTG CCAGGGCTGCCTCAAAGGATACCATCTCCAA TAATAGAGAAAAAATTAAAGGTTGGATTAAGG AGCAGGCACATAAATTTGTAGAACGTTATTTC AGTTCTGAGAATATGGATGGAAGCAACCCTG CATTGAATGTCCTTCAGAGACTTTGTGCTGCA ACCGAACAACTCAACCTCCAGGTGGATGGTG GAGCTGAGTGCCTTGTAGAAATCCGTAGCAT AGTCTCAGAGTCAGATGTTTCATCATTTGAAA TCCAACATAGTGGATTTGTGAAGCAGCTGTT GCTTTATTTGACATCTAAAAGTGAAAAGGATG CTGTGAGCAGAGAGATCAGATTAAAGCGATT TCTTCATGTATTTTTTTCTTCTCCACTTCCTGG AGAAGAGCCCATTGGAAGAGTGGAACCAGTG GGTAATGCACCTTTGTTGGCATTAGTTCACAA GATGAACAACTGCCTCAGCCAGATGGAACAA TTTCCAGTCAAAGTACATGATTTCCCTAGTGG AAATGGGACAGGAGGCAGCTTTTCTCTCAAC AGAGGATCACAGGCTTTAAAATTTTTCAACAC ACATCAATTAAAATGCCAGTTACAAAGGCATC CAGACTGTGCAAATGTGAAGCAGTGGAAGGG TGGACCTGTCAAGATTGACCCTCTGGCTTTG GTACAAGCCATCGAGAGATACCTTGTAGTTA GAGGGTATGGAAGAGTAAGAGAAGATGATGA		AKKHDELWHDGVCPSVSNPL EVYLIPTPPENITFEDPSLDVIL LLRVLHAISRYWYYLYDNAMC KEIIPTSEFINSKLTAKANRQLQ DPLVIMTGNIPTWLTELGKTCP FFFPFDTRQMLFYVTAFDRDR AMQRLLDTNPEINQSDSQDSR VAPRLDRKKRTVNREELLKQA ESVMQDLGSSRAMLEIQYENE VGTGLGPTLEFYALVSQELQR ADLGLWRGEEVTLSNPKGSQ EGTKYIQNLQGLFALPFGRTA KPAHIAKVKMKFRFLGKLMAK AIMDFRLVDLPLGLPFYKWML RQETSLTSHDLFDIDPVVARS VYHLEDIVRQKKRLEQDKSQT KESLQYALETLTMNGCSVEDL GLDFTLPGFPNIELKKGGKDIP VTIHNLEEYLRLVIFWALNEGV SRQFDSFRDGFESVFPLSHLQ YFYPEELDQLLCGSKADTWDA KTLMECCRPDHGYTHDSRAV KFLFEILSSFDNEQQRLFLQFV TGSPRLPVGGFRSLNPPLTIV RKTFESTENPDDFLPSVMTCV NYLKLPDYSSIEIMREKLLIAAR EGQQSFHLS*	

				AGACAGCGATGACGATGGATCAGATGAGGAA ATAGATGAGTCTCTGGCTGCTCAGTTCCTAAA TTCAGGAAATGTAAGACACAGGCTGCAGTTT TATATTGGAGAACATTTGCTGCCGTATAACAT GACTGTGTATCAGGCAGTACGGCAGTTTAGT ATACAGGCTGAAGATGAAAGAGAATCCACAG ATGATGAGAGCAATCCTCTAGGCAGAGCTGG TATTTGGACAAAGACTCATACAATATGGTATA AACCTGTGAGAGAGGATGAAGAAAGTAATAA AGATTGTGTTGGTGGTAAAAGAGGAAGAGCC CAAACAGCTCCAACGAAAACTTCCCCTAGAA ATGCAAAAAAAGCATGATGAGTTATGGCACGA TGGAGTGTGCCCATCAGTATCAAATCCTTTAG AAGTTTACCTCATTCCCACACCACCTGAAAAT ATAACATTTGAAGACCCGTCATTAGATGTGAT CCTTCTTTTAAGAGTTTTACATGCTATCAGTC GATACTGGTATTACTTGTATGATAATGCAATG TGCAAGGAAATTATTCCAACTAGTGAATTTAT TAACAGTAAGTTAACAGCAAAAGCAAATAGG CAACTTCAAGATCCTTTAGTAATCATGACAGG AAACATCCCAACATGGCTTACTGAGCTAGGA AAAACCTGCCCATTTTTCTTTCCTTTTGATAC CCGGCAAATGCTTTTTTATGTAACTGCATTTG ATCGGGACCGAGCAATGCAAAGATTACTTGA TACCAACCCAGAAATCAACCAGTCTGATTCTC AAGATAGCAGAGTTGCACCTAGATTGGATAG AAAAAAACGTACTGTGAACCGAGAGGAGCTG CTGAAACAGGCGGAGTCTGTGATGCAGGAC CTCGGCAGCTCACGGGCCATGTTAGAAATCC AGTATGAAAATGAGGTTGGTACAGGTCTTGG GCCTACACTGGAGTTTTATGCGCTTGTATCTC AGGAACTACAGAGAGCTGACTTGGGTCTTTG GAGAGGTGAAGAAGTAACTCTTAGCAATCCA AAAGGGAGCCAAGAAGGGACCAAGTATATTC AAAACCTCCAGGGCCTGTTTGCGCTTCCCTT TGGTAGGACAGCAAAGCCAGCTCATATCGCA		

				AAGGTTAAGATGAAGTTTCGCTTCTTAGGAAA ATTAATGGCCAAGGCTATCATGGATTTCAGAT TGGTGGACCTTCCCCTTGGCTTACCCTTTTAT AAATGGATGCTACGGCAAGAAACTTCACTGA CATCACACGATTTGTTTGACATCGACCCAGTT GTAGCCAGATCAGTTTATCACCTAGAAGACAT TGTCAGACAGAAGAAAAGACTTGAACAAGAT AAATCCCAGACCAAAGAGAGTCTACAGTATG CATTAGAAACCTTGACTATGAATGGCTGCTCA GTTGAAGATCTAGGACTGGATTTCACTCTGC CAGGGTTTCCCAATATCGAACTGAAGAAAGG AGGGAAGGATATACCAGTCACTATCCACAAT TTAGAGGAGTATCTAAGACTGGTTATATTCTG GGCACTAAATGAAGGCGTTTCTAGGCAATTT GATTCGTTCAGAGATGGATTTGAATCAGTCTT CCCACTCAGTCATCTTCAGTACTTCTACCCG GAGGAACTGGATCAGCTCCTTTGTGGCAGTA AAGCAGACACTTGGGATGCAAAGACACTGAT GGAATGCTGTAGGCCTGATCATGGTTATACT CATGACAGTCGGGCTGTGAAGTTTTTGTTTG AGATTCTCAGTAGTTTTGATAATGAGCAGCAG AGGTTATTTCTCCAGTTTGTGACTGGTAGCCC AAGATTGCCTGTTGGAGGATTCCGGAGTTTG AATCCACCTTTGACAATTGTCCGAAAGACGTT TGAATCAACAGAAAACCCAGATGACTTCTTGC CCTCTGTAATGACTTGTGTGAACTATCTTAAG TTGCCGGACTATTCAAGCATTGAGATAATGC GTGAAAAACTGTTGATAGCAGCAAGAGAAGG GCAGCAGTCGTTCCATCTTTCCTGA		
Shigella ipaH9.8	6	prey67717	144	GCGGGACATCCAGTATTGGGCTCACGTGCAT AAGACTGTCCCAGACAGCAGCACAATCACGT TCAGCCAAGTGGAGTTTCCGACGCACTTGTG TGGCAGCCGCGTGAATGTGAGCCGATATGCA GCTGGGAGGGGTTGTGGGCCTCCTGCGGTG AGGGGCTCCTGCCAGGAGCTCTGAGAAGCC	345	AGHPVLGSRA*DCPRQQHNH VQPSGVSDALVWQPRECEPI CSWEGLWASCGEGLLPGALR SLHRISRRAPSAAAPLICAND WGPNSRVPARLPPIQTVGF*E LGAWGPLGWGGQGEQVGSV

				TCCACAGAATCAGCCGTCGGGCTCCTTCAGC		SLFPHALTHPNPWVRTELLKA
				AGCAGCTCCCCTTATCTGTGCCAACGACTGG		TEGGAAHSTWVAFRSSALFLP
				GGGCCTAACTCAAGGGTGCCAGCCCGTCTTC		AGSLCLRSLS*PSSPPPGSSE
				CGCCAATACAGACTGTGGGATTCTGAGAGTT		TEPGPLAAPRPRPFSDRGATT
				AGGAGCCTGGGGTCCCCTGGGGTGGGGTGG		PGRGGKEGRPKSRGLSWWP
				TCAGGGTGAGCAGGTGGGCTCTGTGAGCCT		WASLELWCHHLQKGGKNACV
				GTTTCCCCATGCCCTGACTCACCCCAATCCC		VQLRGYAVKTRMVGRLALNN
				TGGGTGAGGACAGAGCTCCTGAAGGCCACT		GSIWPGAVAHACNPSTLGGR
				GAAGGAGGTGCAGCACACTCCACCTGGGTG		GGRITRSGDQDHPG*NGETPS
				GCCTTCCGCAGCTCAGCCCTCTTCCTGCCAG		LLKIQKISRA*WRAPVVPATWE
				CAGGAAGCCTCTGCCTGCGCTCCTTAAGTTA		AEAGEWCEPGRRSLQ*AEIPP
				GCCATCCTCACCCCCTCCGGGCAGCTCTGA		LHSSLGDRARLRLKKKKKNNG
				GACTGAGCCAGGGCCACTAGCAGCACCCAG		SIVFSAQEEGSWDRERATTPH
				ACCTCGACCCTTCTCAGACCGAGGCGCCACC		PSLYNRRATFSSSEQDRLVAK
				ACCCCAGGCCGAGGAGGCAAGGAGGGAAGA		SRK*GLVPARWLIPVIPVLWEA
				CCAAAGTCTAGAGGACTGTCTTGGTGGCCCT		EAGAGWIT*GQGFETSPTNMV
				GGGCGAGTCTTGAACTTTGGTGCCATCATCT		KPRLY*EYKN*PGVVARACNLS
				GCAAAAGGGAGGAAAGAATGCCTGCGTGGT		CLGG*GRRIA*TREAEVAVSRD
				GCAGCTACGTGGATACGCAGTGAAGACCCG		RATTVQPGGSVRLGL
				CATGGTGGGACGCCTGGCACTTAACAATGGT		
				AGCATTTGGCCGGGCGCGGTGGCTCACGCC		
				TGTAATCCCAGCACTTTGGGAGGCCGAGGC		
				GGGCGGATCACGAGGTCAGGAGATCAAGAC		
				CATCCCGGCTAAAACGGTGAAACCCCGTCTC		
				TACTAAAAATACAAAAAATTAGCCGGGCGTAG		
				TGGCGGGCGCCTGTAGTCCCAGCTACTTGG		
				GAGGCTGAGGCAGGAGAATGGTGTGAACCC		
				GGGAGGCGGAGCTTGCAGTGAGCCGAGATC		
				CCGCCACTGCACTCCAGCCTGGGCGACAGA		
				GCGAGACTCCGTCTCAAAAAAAAAAAAAAAAA		
				CAATGGTAGCATCGTTTTCAGTGCCCAGGAA		
				GAAGGCAGCTGGGACAGGGAAAGGGCCACC		
				ACACCACACCCAAGCCTATACAACAGGAGAG		
				CCACTTTCAGCAGCTCTGAGCAGGACAGACT		
				TGTGGCCAAGTCAAGAAAGTAAGGTCTGGTC		
				CCAGCGAGGTGGCTCATCCCTGTAATCCCAG		

				TGCTTTGGGAGGCCGAAGCGGGGGCGGGGT GGATCACTTGAGGTCAGGGGTTTGAGACCAG CCCGACCAACATGGTGAAACCCCGTCTCTAC TAAGAATATAAAAATTAGCCGGGCGTGGTGG CGCGTGCCTGTAATCTCAGCTGCTTGGGAGG CTGAGGCAGGAGAATCGCTTGAACCCGGGA GGCAGAGGTTGCAGTGAGCCGAGATCGAGC CACTACTGTCCAGCCCGGCGGCAGTGTGAG GCTCGGTCTC		
Shigella ipaH9.8	6	prey700	145	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGA ACATGAATAGACTACCAGGTTGGGATAAGCA TTCATATGGTTACCATGGGGATGATGGACATT CGTTTTGTTCTTCTGGAACTGGACAACCTTAT GGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGC TTTTACACCAAGAATGGACATAGTTTAGGTAT TGCTTTCACTGACCTACCGCCAAATTTGTATC CTACTGTGGGGCTTCAAACACCAGGAGAAGT GGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGT GGAGAACCAAAATCCAGGCACAGATAGATCG ATTTCCTATCGGAGATCGAGAAGGAGAATGG CAGACCATGATACAAAAAATGGTTTCATCTTA TTTAGTCCACCATGGGTACTGTGCCACAGCA GAGGC	346	MGIGLSAQGVNMNRLPGWDK HSYGYHGDDGHSFCSSGTGQ PYGPTFTTGDVIGCCVNLINNT CFYTKNGHSLGIAFTDLPPNLY PTVGLQTPGEVVDANFGQHP FVFDIEDYMREWRTKIQAQID RFPIGDREGEWQTMIQKMVS SYLVHHGYCATAE
Shigella ipaH9.8	6	prey67718	146	ATGGGTGGATTATTTTCTCGATGGAGGACAA AACCTTCAACTGTAGAAGTTCTAGAAAGTATA GATAAGGAAATTCAAGCATTGGAAGAATTTAG GGAAAAAAATCAGAGATTACAAAAATTATGGG TTGGAAGATTAATTCTGTATTCCTCAGTTCTC TATCTGTTTACATGCTTAATTGTATATTTGTGG TATCTTCCTGATGAATTTACAGCAAGACTTGC CATGACACTCCCATTTTTTGCTTTTCCATTGA TCATCTGGAGCATAAGAACAGTAATTATTTTC TTCTTTTCCAAGAGAACAGAAAGAAATAATGA	347	MGGLFSRWRTKPSTVEVLESI DKEIQALEEFREKNQRLQKLW VGRLILYSSVLYLFTCLIVYLWY LPDEFTARLAMTLPFFAFPLII WSIRTVIIFFFSKRTERNNEAL DDLKSQRKKILEEVMEKETYK T

				AGCATTGGATGATTTAAAATCCCAGAGGAAAA AAATACTTGAAGAAGTCATGGAAAAAGAAACT TACAAGACG		
Shigella ipaH9.8	6	prey2530	147	ATGGGCGACAAAGGGACCCGAGTGTTCAAG AAGGCCAGTCCAAATGGAAAGCTCACCGTCT ACCTGGGAAAGCGGGACTTTGTGGACCACAT CGACCTCGTGGACCCTGTGGATGGTGTGGT CCTGGTGGATCCTGAGTATCTCAAAGAGCGG AGAGTCTATGTGACGCTGACCTGCGCCTTCC GCTATGGCCGGGAGGACCTGGATGTCCTGG GCCTGACCTTTCGCAAGGACCTGTTTGTGGC CAACGTACAGTCGTTCCCACCGGCCCCCGA GGACAAGAAGCCCCTGACGCGGCTGCAGGA ACGCCTCATCAAGAAGCTGGGCGAGCACGC TTACCCTTTCACCTTTGAGATCCCTCCAAACC TTCCATGTTCTGTGACACTGCAGCCGGGGCC CGAAGACACGGGGAAGGCTTGCGGTGTGGA CTATGAAGTCAAAGCCTTCTGCGCGGAGAAT TTGGAGGAGAAGATCCACAAGCGGAATTCTG TGCGTCTGGTCATCCGGAAGGTTCAGTATGC CCCAGAGAGGCCTGGCCCCCAGCCCACAGC CGAGACCACCAGGCAGTTCCTCATGTCGGAC AAGCCCTTGCACCTAGAAGCCTCTCTGGATA AGGAGATCTATTACCATGGAGAACCCATCAG CGTCAACGTCCACGTCACCAACAACACCAAC AAGACGGTGAAGAAGATCAAGATCTCAGTGC GCCAGTATGCAGACATCTGCCTTTTCAACAC AGCTCAGTACAAGTGCCCTGTTGCCATGGAA GAGGCTGATGACACTGTGGCACCCAGCTCG ACGTTCTGCAAGGTCTACACACTGACCCCCT TCCTAGCCAATAACCGAGAGAAGCGGGGCCT CGCCTTGGACGGGAAGCTCAAGCACGAAGA CACGAACTTGGCCTCTAGCACCCTGTTGAGG GAAGGTGCCAACCGTGAGATCCTGGGGATC ATTGTTTCCTACAAAGTGAAAGTGAAGCTGGT	348	MGDKGTRVFKKASPNGKLTV YLGKRDFVDHIDLVDPVDGVV LVDPEYLKERRVYVTLTCAFR YGREDLDVLGLTFRKDLFVAN VQSFPPAPEDKKPLTRLQERLI KKLGEHAYPFTFEIPPNLPCSV TLQPGPEDTGKACGVDYEVK AFCAENLEEKIHKRNSVRLVIR KVQYAPERPGPQPTAETTRQ FLMSDKPLHLEASLDKEIYYHG EPISVNVHVTNNTNKTVKKIKIS VRQYADICLFNTAQYKCPVAM EEADDTVAPSSTFCKVYTLTP FLANNREKRGLALDGKLKHED TNLASSTLLREGANREILGIIVS YKVKVKLVVSRGGLLGDLASS DVAVELPFTLMHPKPKEEPPH REVPENETPVDTNLIELDTND DDIVFEDFARQRLKGMKDDKE EEEDGTGSPQLNNR*

				GGTGTCTCGGGGCGGCCTGTTGGGAGATCT TGCATCCAGCGACGTGGCCGTGGAACTGCC CTTCACCCTAATGCACCCCAAGCCCAAAGAG GAACCCCCGCATCGGGAAGTTCCAGAGAAC GAGACGCCAGTAGATACCAATCTCATAGAAC TTGACACAAATGATGACGACATTGTATTTGAG GACTTTGCTCGCCAGAGACTGAAAGGCATGA AGGATGACAAGGAGGAAGAGGAGGATGGTA CCGGCTCTCCACAGCTCAACAACAGATAG		
Shigella ipaH9.8	6	prey67731	148	ATGTCAATAGCAGGAGTTGCTGCTCAGGAGA TCAGAGTCCCATTAAAAACTGGATTTCTACAT AATGGCCGAGCCATGGGGAATATGAGGAAG ACCTACTGGAGCAGTCGCAGTGAGTTTAAAA ACAACTTTTTAAATATTGACCCGATAACCATG GCCTACAGTCTGAACTCTTCTGCTCAGGAGC GCCTAATACCACTTGGGCATGCTTCCAAATCT GCTCCGATGAATGGCCACTGCTTTGCAGAAA ATGGTCCATCTCAAAAGTCCAGCTTGCCCCC TCTTCTTATTCCCCCAAGTGAAAACTTGGGAC CACATGAAGAGGATCAAGTTGTATGTGGTTTT AAGAAACTCACAGTGAATGGGGTTTGTGCTT CCACCCCTCCACTGACACCCATAAAAAACTC CCCTTCCCTTTTCCCCTGTGCCCCTCTTTGTG AACGGGGTTCTAGGCCTCTTCCACCGTTGCC AATCTCTGAAGCCCTCTCTCTGGATGACACA GACTGTGAGGTGGAATTCCTAACTAGCTCAG ATACAGACTTCCTTTTAGAAGACTCTACACTT TCTGATTTCAAATATGATGTTCCTGGCAGGCG AAGCTTCCGTGGGTGTGGACAAATCAACTAT GCATATTTTGATACCCCAGCTGTTTCTGCAGC AGATCTCAGCTATGTGTCTGACCAAAATGGA GGTGTCCCAGATCCAAATCCTCCTCCACCTC AGACCCACCGAAGATTAAGAAGGTCTCATTC GGGACCAGCTGGCTCCTTTAACAAGCCAGCC ATAAGGATATCCAACTGTTGTATACACAGAGC	349	MSIAGVAAQEIRVPLKTGFLHN GRAMGNMRKTYWSSRSEFK NNFLNIDPITMAYSLNSSAQER LIPLGHASKSAPMNGHCFAEN GPSQKSSLPPLLIPPSENLGPH EEDQVVCGFKKLTVNGVCAST PPLTPIKNSPSLFPCAPLCERG SRPLPPLPISEALSLDDTDCEV EFLTSSDTDFLLEDSTLSDFKY DVPGRRSFRGCGQINYAYFDT PAVSAADLSYVSDQNGGVPD PNPPPPQTHRRLRRSHSGPA GSFNKPAIRISNCCIHRASPNS DEDKPEVPPRVPIPPRPVKPD YRRWSAEVTSSTYSDEDRPP KVPPREPLSPSNSRTPSPKSL PSYLNGVMPPTQSFAPDPKYV SSKALQRQNSEGSASKVPCIL PIIENGKKVSSTHYYLLPERPP YLDKYEKFFREAEETNGGAQI QPLPADCGISSATEKPDSKTK MDLGGHVKRKHLSYVVSP*

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				TTCTCCTAACTCCGATGAAGACAAACCTGAG GTTCCCCCCAGAGTTCCCATACCTCCTAGAC CAGTAAAGCCAGATTATAGAAGATGGTCAGC AGAAGTTACTTCGAGCACCTATAGTGATGAA GACAGGCCTCCCAAAGTACCGCCAAGAGAAC CTTTGTCACCGAGTAACTCGCGCACACCGAG TCCCAAAAGCCTTCCGTCTTACCTCAATGGG GTCATGCCCCCGACACAGAGCTTTGCCCCTG ATCCCAAGTATGTCAGCAGCAAAGCACTGCA AAGACAGAACAGCGAAGGATCTGCCAGTAAG GTTCCTTGCATTCTGCCCATTATTGAAAATGG GAAGAAGGTTAGTTCAACACATTATTACCTAC TACCTGAACGACCACCATACCTGGACAAATA TGAAAAATTTTTTAGGGAAGCAGAAGAAACAA ATGGAGGCGCCCAAATCCAGCCATTACCTGC TGACTGCGGTATATCTTCAGCCACAGAAAAG CCAGACTCAAAAACAAAAATGGATCTGGGTG GCCACGTGAAGCGTAAACATTTATCCTATGT GGTTTCTCCTTAG		
Shigella ipaH9.8	6	prey7155	149	GCTCCCGGACGTCCCTGCTCCTGGCTTTTGC CCTGCTCTGCCTGCCCTGGCTTCAAGAGGCT GGTGCCGTCCAAACCGTTCCGTTATCCAGGC TTTTTGACCACGCTATGCTCCAAGCCCATCG CGCGCACCAGCTGGCCATTGACACCTACCAG GAGTTTGAAGAAACCTATATCCCAAAGGACC AGAAGTATTCATTCCTGCATGACTCCCAGAC CTCCTTCTGCTTCTCAGACTCTATTCCGACAC CCTCCAACATGGAGGAAACGCAACAGAAATC CAATCTAGAGCTGCTCCGCATCTCCCTGCTG CTCATCGAGTCGTGGCTGGAGCCCGTGCGG TTCCTCAGGAGTATGTTCGCCAACAACCTGG TGTATGACACCTCGGACAGCGATGACTATCA CCTCCTAAAGGACCTAGAGGAAGGCATCCAA ACGCTGATGGGGGTGAGGGTGGCGCCAGGG GTCGCCAATCCTGGAACCCCACTGGCTTAG	350	SRTSLLLAFALLCLPWLQEAG AVQTVPLSRLFDHAMLQAHRA HQLAIDTYQEFEETYIPKDQKY SFLHDSQTSFCFSDSIPTPSN MEETQQKSNLELLRISLLLIES WLEPVRFLRSMFANNLVYDTS DSDDYHLLKDLEEGIQTLMGV RVAPGVANPGTPLA*

Shigella ipaH9.8	6	prey1687	150	GGAGTATGATGCAGAGCGGCCCCCCAGCAA GCCTCCACCGGTTGAACTGCGGGCTGCTGC CCTTCGTGCAGAGATCACAGATGCTGAAGGC CTGGGTTTGAAGCTCGAAGATCGAGAGACAG TTATTAAGGAGTTGAAGAAGTCACTCAAGATT AAGGGAGAGGAGCTAAGTGAGGCCAATGTG CGGCTGAGCCTCCTGGAGAAGAAGTTGGAC AGTGCTGCCAAGGATGCAGATGAGCGCATC GAGAAAGTCCAGACTCGGCTGGAGGAGACC CAGGCACTGCTGCGAAAGAAGGAGAAAGAG TTTGAGGAGACAATGGATGCACTCCAGGCTG ACATCGACCAGCTGGAGGCAGAGAAGGCAG AACTAAAGCAGCGTCTGAACAGCCAGTCCAA ACGCACGATTGAGGGACTCCGGGGCCCTCC TCCTTCAGGCATTGCTACTCTGGTCTCTGGC ATTGCTGGTGAAGAACAGCAGCGAGGAGCC ATCCCTGGGCAGGCTCCAGGGTCTGTGCCA GGCCCAGGGCTGGTGAAGGACTCACCACTG CTGCTTCAGCAGATCTCTGCCATGAGGCTGC ACATCTCCCAGCTCCAGCATGAGAACAGCAT CCTCAAGGGAGCCCAGATGAAGGCATCCTTG GCATCCCTGC	351	EYDAERPPSKPPPVELRAAAL RAEITDAEGLGLKLEDRETVIK ELKKSLKIKGEELSEANVRLSL LEKKLDSAAKDADERIEKVQT RLEETQALLRKKEKEFEETMD ALQADIDQLEAEKAELKQRLN SQSKRTIEGLRGPPPSGIATLV SGIAGEEQQRGAIPGQAPGSV PGPGLVKDSPLLLQQISAMRL HISQLQHENSILKGAQMKASL ASL
Shigella ipaH9.8	6	prey67734	151	ATGAGCCAGAGGGACACGCTGGTGCATCTGT TTGCCGGAGGATGTGGTGGTACAGTGGGAG CTATTCTGACATGTCCACTGGAAGTTGTAAAA ACACGACTGCAGTCATCTTCTGTGACGCTTTA TATTTCTGAAGTTCAGCTGAACACCATGGCTG GAGCCAGTGTCAACCGAGTAGTGTCTCCCGG ACCTCTTCATTGCCTAAAGGTGATCTTGGAAA AAGAAGGGCCTCGTTCCTTGTTTAGAGGACT AGGCCCCAATTTAGTGGGGGTAGCCCCTTCC AGAGCAATATACTTTGCTGCTTATTCAAACTG CAAGGAAAAGTTGAATGATGTATTTGATCCTG ATTCTACCCAAGTACATATGATTTCAGCTGCA ATGGCAGGTTTTACTGCAATCACAGCAACCA	352	MSQRDTLVHLFAGGCGGTVG AILTCPLEVVKTRLQSSSVTLYI SEVQLNTMAGASVNRVVSPG PLHCLKVILEKEGPRSLFRGLG PNLVGVAPSRAIYFAAYSNCK EKLNDVFDPDSTQVHMISAAM AGFTAITATNPIWLIKTRLQLDA RNRGERRMGAFECVRKVYQT DGLKGFYRGMSASYAGISETV IHFVIYESIKQKLLEYKTASTME NGEESVKEASDFVGMMLAAA TSKTCATTIAYPHVVRTRLREE GTKYRSFFQTLSLLVQEEGYG

				ACCCCATTTGGCTTATAAAGACTCGGTTACAG CTTGATGCAAGGAACCGCGGGGAAAGGCGA ATGGGTGCTTTTGAATGTGTTCGTAAAGTGTA TCAGACAGATGGACTAAAAGGATTTTATAGG GGCATGTCTGCTTCATATGCTGGTATATCAGA GACTGTTATCCATTTTGTTATTTATGAAAGTAT AAAACAAAAACTACTGGAATATAAGACTGCTT CTACAATGGAAAATGGTGAAGAGTCTGTGAA AGAAGCATCAGATTTTGTGGGAATGATGCTA GCTGCTGCCACCTCAAAAACTTGTGCCACAA CTATAGCATATCCACATGTTGTAAGAACAAGA CTACGTGAAGAGGGAACAAAATACAGATCTT TTTTTCAGACTCTATCTTTGCTTGTTCAAGAA GAAGGTTATGGGTCTCTTTATCGTGGTCTGA CAACTCATCTAGTGAGACAGATTCCAAACACA GCCATTATGATGGCCACCTATGAATTGGTGG TTTACCTACTCAATGGATAG		SLYRGLTTHLVRQIPNTAIMMA TYELVVYLLNG*
Shigella ipaH9.8	6	prey2694	152	ATGGCACACGCTATGGAAAACTCCTGGACAA TCAGTAAAGAGTACCATATTGATGAAGAAGTG GGCTTTGCTCTGCCAAATCCACAGGAAAATC TACCTGATTTTTATAATGACTGGATGTTCATT GCTAAACATCTGCCTGATCTCATAGAGTCTG GCCAGCTTCGAGAAAGAGTTGAGAAGTTAAA CATGCTCAGCATTGATCATCTCACAGACCAC AAGTCACAGCGCCTTGCACGTCTAGTTCTGG GATGCATCACCATGGCATATGTGTGGGGCAA AGGTCATGGAGATGTCCGTAAGGTCTTGCCA AGAAATATTGCTGTTCCTTACTGCCAACTCTC CAAGAAACTGGAACTGCCTCCTATTTTGGTTT ATGCAGACTGTGTCTTGGCAAACTGGAAGAA AAAGGATCCTAATAAGCCCCTGACTTATGAG AACATGGACGTTTTGTTCTCATTTCGTGATGG AGACTGCAGTAAAGGATTCTTCCTGGTCTCT CTATTGGTGGAAATAGCAGCTGCTTCTGCAA TCAAAGTAATTCCTACTGTATTCAAGGCAATG	353	MAHAMENSWTISKEYHIDEEV GFALPNPQENLPDFYNDWMFI AKHLPDLIESGQLRERVEKLN MLSIDHLTDHKSQRLARLVLG CITMAYVWGKGHGDVRKVLP RNIAVPYCQLSKKLELPPILVY ADCVLANWKKKDPNKPLTYE NMDVLFSFRDGDCSKGFFLVS LLVEIAAASAIKVIPTVFKAMQM QERDTLLKALLEIASCLEKALQ VFHQIHDHVN

				CAAATGCAAGAACGGGACACTTTGCTAAAGG CGCTGTTGGAAATAGCTTCTTGCTTGGAGAA AGCCCTTCAAGTGTTTCACCAAATCCACGATC ATGTGAAC		
Shigella ipaH9.8	6	prey67740	153	GNATGNATTACNTGCNATANTGTAGAAATTG GGCATGNGGACAAGGGGATGGTTCATGTATC TCTTAACTGTCTGACATGGNAACATNGTCTAT ACCNAGTTNGNGTGCACTTTTAAAATGAATCC GATTTGTCTGCACTNNNNTNCCNCNTCTNCC TCNTTNTATGTGNGTGCAGCGTTTACNCTACT NCANTCTGANTGTACTTANTGGTNATCTTNCN TGCNNTTGNGGNTGGNGANGGTGNTCGCNT TTTTNTTCTGTGTACCNGNNNGGGGGGGN	354	XXITCXXVEIGHXDKGMVHVS LNCLTWXHXLYXVXVHF*NES DLSALXXXXXLXXCXCSVYXT XX*XYLXVIXXAXXXGXGXRXF XLCTXXGG
Shigella ipaH9.8	6	prey67703	154	GGCCATTGAGAAACTACTCGCTCTTCTCAAC ACGCTGGACAGGTGGATTGATGAGACTCCTC CAGTGGACCAGCCCTCTCGGTTTGGGAATAA GGCATACAGGACCTGGTATGCCAAACTTGAT GAGGAAGCAGAAAACTTGGTGGCCACAGTG GTCCCTACCCATCTGGCAGCTGCTGTGCCTG AGGTGGCTGTTTACCTAAAGGAGTCAGTGGG GAACTCCACGCGCATTGACTACGGCACAGG GCATGAGGCAGCCTTCGCTGCTTTCCTCTGC TGTCTCTGCAAGATTGGGGTGCTCCGGGTGG ATGACCAAATAGCTATTGTCTTCAAGGTGTTC AATCGGTACCTTGAGGTTATGCGGAAACTCC AGAAAACATACAGGATGGAGCCAGCCGGCA GCCAGGGAGTGTGGGGTCTGGATGACTTCC AGTTTCTGCCCTTCATCTGGGGCAGTTCGCA GCTGATAGACCAC	355	AIEKLLALLNTLDRWIDETPPV DQPSRFGNKAYRTWYAKLDE EAENLVATVVPTHLAAAVPEV AVYLKESVGNSTRIDYGTGHE AAFAAFLCCLCKIGVLRVDDQI AIVFKVFNRYLEVMRKLQKTY RMEPAGSQGVWGLDDFQFLP FIWGSSQLIDH
Shigella ipaH9.8	6	prey67741	155	GACAAGTTGAGCCAAGCAAAAGCCTACTGCA ACTTGGGCCTAGCATTCAAGGCTCTGCTGAA TTTCAGTAAAGCTGAAGAGTGTCANGAAGTA CCTACTGTCCCTAGCCCAGTCTCTGAATAATT CCCAGGCTAAATTTCGAGCCCTAGGAAACCT GGGCGATATATTCATCTGTAAAAAAGATATAA	356	DKLSQAKAYCNLGLAFKALLN FSKAEECXEVPTVPSPVSE*FP G*ISSPRKPGRYIHL*KRYKWC NKIL*AATGLSSPGKGQKIRSQ CICSP

				ATGGTGCAATAAAATTCTATGAGCAGCAACTG GGCTTAGCTCACCAGGTAAAGGACAGAAGAT TAGAAGCCAGTGCATATGCAGCCCT		
Shigella ipaH9.8	6	prey67742	156	AGGTAATGGAGCTGGTGGTGGCAGCAGCCA GAAAACTCCACTCTTTGAAACTTACTCGGATT GGGACAGAGAAATCAAGAGGACAGGTGCTTC CGGGTGGAGAGTTTGTTCTATTAACGAGGGT TACATGATATCCACTTGCCTTCCAGAATACAT TGTAGTGCCAAGTTCTTTAGCAGACCAAGAT CTAAAGATCTTTTCCCATTCTTTTGTTGGGAG AAGGATGCCACTCTGGTGCTGGAGCCACTCT AACGGCAGTGCTCTTGTGCGAATGGCCCTCA TCAAAGACGTGCTGCAGCAGAGGAAGATTGA CCAGAGGATTTGTAATGCAATAACTAAAAGTC ACCCACAGAGAAGTGATGTTTACAAATCAGAT TTGGATAAGACCTTGCCTAATATTCAAGAAGT ACAAGCAGCATTTGTAAAACTGAAGCAGCTAT GCGTTAATGAGCCTTTTGAAGAAACTGAAGA GAAATGGTTATCTTCACTGGAAAATACTCGAT GGTTAGAATATGTAAGGGCATTCCTTAAGCAT TCAGCAGAACTTGTATACATGCTAGAAAGCAA ACATCTCTCTGTAGTCCTACAAGAGGAGGAA GGAAGAGACTTGAGCTGTTGTGTAGCTTCTC TTGTTCAAGTGATGCTGGATCCCTATTTTAGG ACAATTACTGGATTTCAGAGTCTGATACAGAA GGAGTGGGTCATGGCAGGATATCAGTTTCTA GACAGATGCAACCATCTAAAGAGATCAGAGA AAGAGTCTCCTTTATTTTTGCTATTCTTGGAT GCCACCTGGCAGCTGTTAGAACAATATCCTG CAGCTTTTGAGTTCTCCGAAACCTACCTGGC AGTGTTGTATGACAGCACCCGGATCTCACTG TTTGGCACCTTCCTGTTCAACTCCCCTCACCA GCGAGTGAAGCAAAGCACGGTCAGTAGGATA AAAAGTTGTACAAAACAAGATTATTTTCCTTC ACGAGTTTGA	357	GNGAGGGSSQKTPLFETYSD WDREIKRTGASGWRVCSINE GYMISTCLPEYIVVPSSLADQD LKIFSHSFVGRRMPLWCWSH SNGSALVRMALIKDVLQQRKI DQRICNAITKSHPQRSDVYKS DLDKTLPNIQEVQAAFVKLKQL CVNEPFEETEEKWLSSLENTR WLEYVRAFLKHSAELVYMLES KHLSVVLQEEEGRDLSCCVAS LVQVMLDPYFRTITGFQSLIQK EWVMAGYQFLDRCNHLKRSE KESPLFLLFLDATWQLLEQYP AAFEFSETYLAVLYDSTRISLF GTFLFNSPHQRVKQSTVSRIK SCTKQDYFPSRV*

Shigella ipaH9.8	6	prey67339	157	GGAAGAAGAAGAGACAGAGCTGCCCACTGT GCCCCCAGTGCCCACAGAACCCAGTCCCAT GCCAGACCCTTGCAGTAGTGAACTGGATGCC ATGATGCTGGGGCCCCGTGGGAAGACCTAT GCTTTCAAGGGGGACTATGTGTGGACTGTAT CAGATTCAGGACCGGGCCCCTTGTTCCGAGT GTCTGCCCTTTGGGAGGGGCTCCCCGGAAA CCTGGATGCTGCTGTCTACTCGCCTCGAACA CAATGGATTCACTTCTTTAAGGGAGACAAGG TGTGGCGCTACATTAATTTCAAGATGTCTCCT GGCTTCCCCAAGAAGCTGAATAGGGTAGAAC CTAACCTGGATGCAGCTCTCTATTGGCCTCT CAACCAAAAGGTGTTCCTCTTTAAGGGCTCC GGGTACTGGCAGTGGGACGAGCTAGCCCGA ACTGACTTCAGCAGCTACCCCAAACCAATCA AGGGTTTGTTTACGGGAGTGCCAAACCAGCC C	358	EEEETELPTVPPVPTEPSPMP DPCSSELDAMMLGPRGKTYA FKGDYVWTVSDSGPGPLFRV SALWEGLPGNLDAAVYSPRT QWIHFFKGDKVWRYINFKMSP GFPKKLNRVEPNLDAALYWPL NQKVFLFKGSGYWQWDELAR TDFSSYPKPIKGLFTGVPNQP
Shigella ipaH9.8	6	prey67337	158	GGCTCCCTTGACCTTCCAAGAGGTGCAGGCT GGTGCGGCTGACATCCGCCTCTCCTTCCATG GCCGCCAAAGCTCGTACTGTTCCAATACTTTT GATGGGCCTGGGAGAGTCCTGGCCCATGCC GACATCCCAGAGCTGGGCAGTGTGCACTTCG ACGAAGACGAGTTCTGGACTGAGGGGACCTA CCGTGGGGTGAACCTGCGCATCATTGCAGC CCATGAAGTGGGCCATGCTCTGGGGCTTGG GCACTCCCGATATTCCCAGGCCCTCATGGCC CCAGTCTACGAGGGCTACCGGCCCCACTTTA AGCTGCACCCAGATGATGTGGCAGGGATCCA GGCTCTCTATGGCAAGAAGAGTCCAGTGATA AGGGATGAGGAAGAAGAAGAGACAGAGCTG CCCACTGTGCCCCCAGTGCCCACAGAACCCA GTCCCATGCCAGACCCTTGCAGTAGTGAACT GGATGCCATGATGCTGGGTGAGGCCCCTCC CCTCCAGGCTGTTGGCAGGCGGTGGGGGCA GCCTGCTGATCCTGAGGCCTGGACAAATGG	359	APLTFQEVQAGAADIRLSFHG RQSSYCSNTFDGPGRVLAHA DIPELGSVHFDEDEFWTEGTY RGVNLRIIAAHEVGHALGLGH SRYSQALMAPVYEGYRPHFKL HPDDVAGIQALYGKKSPVIRD EEEEETELPTVPPVPTEPSPM PDPCSSELDAMMLGEAPPLQ AVGRRWGQPADPEAWTNGS DMGLQHEQWRAPWEDLCFQ GGLCVDCIRFRTGPLVPSVCP LGGAPRKPGCCCLLASNTMD SLL*

				GAGTGACATGGGACTTCAGCATGAGCAATGG AGGGCCCCGTGGGAAGACCTATGCTTTCAAG GGGGACTATGTGTGGACTGTATCAGATTCAG GACCGGGCCCCTTGTTCCGAGTGTCTGCCCT TTGGGAGGGGCTCCCCGGAAACCTGGATGC TGCTGTCTACTCGCCTCGAACACAATGGATT CACTTCTTTAA		
Shigella ipaH9.8	6	prey67746	159	ATGGAGAAATATTCAATAATGAAGAGCATGAA TATGCATCGAAAAAAAGGAAAAAGGACCATTT TAGAAATGACACAAATACTCAAAAGGCATGG CTATTGCACCTTGGGAGAAGCCTTTAATCGG TTAGACTTCTCAAGTGCAATTCAAGATATCCG AACGTTCAATTATGTGGTCAAACTGTTGCAGC TAATTGCAAAATCCCAGTTAACTTCATTGAGT GGCGTGGCACAGAAGAATTACTTCAACATTTT GGATAAAATCGTTCAAAAGGTTCTTGATGACC ACCACAATCCTCGCTTAATCAAAGATCTTCTG CAAGACCTAAGCTCTACCCTCTGCATTCTTAT TAGAGGAGTAGGGAAGTCTGTATTAGTGGGA AACATCAATATTTGGATTTGCCGATTAGAAAC TATTCTCGCCTGGCAACAACAGCTACAGGAT CTTCAGATGACTAAGCAAGTGAACAATGGCC TCACCCTCAGTGACCTTCCTCTGCACATGCT GAACAACATCCTATACCGGTTCTCAGACGGA TGGGACATCATCACCTTAGGCCAGGTGACCC CCACGTTGTATATGCTTAGTGAAGACAGACA GCTGTGGAAGAAGCTTTGTCAGTACCATTTT GCTGAAAAGCAGTTTTGTAGACATTTGATCCT TTCAGAAAAAGGTCATATTGAATGGAAGTTGA TGTACTTTGCACTTCAGAAACATTACCCAGCG AAGGAGCAGTACGGAGACACACTGCATTTCT GTCGGCACTGCAGCATTCTCTTTTGGAAGGA CTCAGGACACCCCTGCACGGCGGCCGACCC TGACAGCTGCTTCACGCCTGTGTCTCCGCAG CACTTCATCGACCTCTTCAAGTTTTAA	360	MEKYSIMKSMNMHRKKGKRTI LEMTQILKRHGYCTLGEAFNR LDFSSAIQDIRTFNYVVKLLQLI AKSQLTSLSGVAQKNYFNILD KIVQKVLDDHHNPRLIKDLLQD LSSTLCILIRGVGKSVLVGNINI WICRLETILAWQQQLQDLQMT KQVNNGLTLSDLPLHMLNNILY RFSDGWDIITLGQVTPTLYMLS EDRQLWKKLCQYHFAEKQFC RHLILSEKGHIEWKLMYFALQK HYPAKEQYGDTLHFCRHCSIL FWKDSGHPCTAADPDSCFTP VSPQHFIDLFKF*

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Shigella ipaH9.8	6	prey54430	160	GCTGTCCAAAACCAACAGGACCCTCTTTATAT TTGGTGTCACAAAGTATATTGCAGGACCCTAT GAATGTGAAATACGGAACCCAGTGAGTGCCA GCCGCAGTGACCCAGTCACCCTGAATCTCCT CCATGGTCCAGACCTCCCCAGCATTTACCCT TCATTCACCTATTACCGTTCAGGAGAAAACCT CTACTTGTCCTGCTTCGCCGAGTCTAACCCA CGGGCACAATATTCTTGGACAATTAATGGGA AGTTTCAGCTATCAGGACAAAAGCTCTCTATC CCCCAAATAACTACAAAGCATAGTGGGCTCT ATGCTTGCTCTGTTCGTAACTCAGCCACTGG CAAGGAAAGCTCCAAATCCATCACAGTCAAA GTCTCTGACTGGATATTACCCTGA	361	LSKTNRTLFIFGVTKYIAGPYE CEIRNPVSASRSDPVTLNLLH GPDLPSIYPSFTYYRSGENLYL SCFAESNPRAQYSWTINGKFQ LSGQKLSIPQITTKHSGLYACS VRNSATGKESSKSITVKVSDW ILP*
Shigella ipaH9.8	6	prey67749	161	AAGAAATTTAAGTATATTGAGAATTTGGAAAA ATGTGTTAAACTTGAAGTACTGAATCTCAGCT ATAATCTAATAGGGAAGATTGAAAAGTTGGAC AAGCTGTTAAAATTACGTGAACTCAACTTATC ATATAACAAAATCAGCAAAATTGAAGGCATAG AAAATATGTGTAATCTGCAAAAGCTTAACCTT GCAGGAAATGAAATTGAGCATATTCCAGTAT GGTTAGGGAAGAAGTTAAAATCTTTGCGAGT CCTCA	362	KKFKYIENLEKCVKLEVLNLSY NLIGKIEKLDKLLKLRELNLSYN KISKIEGIENMCNLQKLNLAGN EIEHIPVWLGKKLKSLRVL
Shigella ipaH9.8	6	prey67751	162	GGAGGCAGAGCAAGACACTGTCTCTTAAAAA AAGGAAAGAAAACTCGACAAGAATCCTAGTG GGAGAGGCAGGACCATCCTGTGATGGGTCA ATAATGACCCAGTCATGGAGCACAGTGATGC AGGAAAAGGGGTTGTGAGTGCCAGGAAGGC CAGTTTCGAACAACGTGGCAAGGGAAGCAG GCCTGTGAGAACGGGCCCTCTGAGCCGGAA CTGAGGGAGGAGTTGAGCCTGGGGCTCTCT GGGGGTGCAGTGTTCCANGTGGGGGA	363	GGRARHCLLKKGKKTRQES* WERQDHPVMGQ**PSHGAQ* CRKRGCECQEGQFRTTWQG KQACENGPSEPELREELSLGL SGGAVFXVG
Shigella ipaH9.8	6	prey8739	163	GGCTGAGCCACCCGTCCCCTCACCTCTGCCA CTGGCCTCATCCCCTGAATCAGCCCGACCCA AGCCCCGTGCCCGGCCCCCTGAAGAAGGTG AAGATACCCGTCCTCCTCGCCTCAAGAAATG	364	AEPPVPSPLPLASSPESARPK PRARPPEEGEDTRPPRLKKW KGVRWKRLRLLLTIQKGSGRQ EDEREVAEFMEQLGTALRPDK

				GAAAGGAGTGCGCTGGAAGCGGCTTCGGCT GCTGCTGACCATCCAGAAGGGCAGTGGACG GCAGGAGGATGAGCGGGAAGTGGCAGAGTT TATGGAGCAGCTTGGCACAGCCTTGCGACCT GACAAGGTACCGCGAGACATGCGTCGCTGC TGTTTCTGTCATGAGGAGGGTGACGGGGCCA CTGATGGGCCTGCCCGTCTGCTGAACCTGGA CCTGGACCTGTGGGTGCACCTCAACTGTGCC CTTTGGTCCACGGAGGTGTATGAGACCCAGG GCGGAGCACTGATGAATGTGGAGGTTGCCCT GCACCGAGGACTGCTAACCAAGTGCTCCCTG TGCCAGCGAACTGGTGCCACCAGCAGCTGC AATCGCATGCGTTGCCCCAATGTCTACCATTT TGGTTGTGCCATCCGCGCCAAGTGCATGTTC TTCAAGGACAAGACCATGCTGTGTCCAATGC ATAAGATCAAGGGGCCCTGTGAGCAAGAGCT GAGCTCTTTTGCTGTCTTCCGGCGGG		VPRDMRRCCFCHEEGDGATD GPARLLNLDLDLWVHLNCALW STEVYETQGGALMNVEVALH RGLLTKCSLCQRTGATSSCNR MRCPNVYHFGCAIRAKCMFFK DKTMLCPMHKIKGPCEQELSS FAVFRR
Shigella ipaH9.8	6	prey18232	164	CAGTGATATGATGCTGAACATCATCAACAGCT CTATTACTACCAAAGCCATCAGCCGGTGGTC ATCTTTGGCTTGCAACATTGCCCTGGATGCT GTCAAGATGGTACAGTTTGAGGAGAATGGTC GGAAAGAGATTGACATAAAAAAATATGCAAGA GTGGAAAAGATACCTGGAGGCATCATTGAAG ACTCCTGTGTCTTGCGTGGAGTCATGATTAA CAAGGATGTGACCCATCCACGTATGCGGCGC TATATCAAGAACCCTCGCATTGTGCTGCTGG ATTCTTCTCTGGAATACAAGAAAGGAGGAAG CCAGACTGACATTGAGATTACACGAGAGGAG GACTTCACCCGAATTCTCCAGATGGAGGAAG AGTACATCCAGCAGCTCTGTGAGGACATTAT CCAACTGAAGCCCGATGTGGTCATCACTGAA AAGGGCATCTCAGATTTAGCTCAGCACTACC TTATGCGGGCCAATATCACAGCCATCCGCAG AGTCCGGAAGACAGACAATAATCGCATTGCT AGAGCCTGTGGGGCCCGGATAGTCAGCCGA	365	SDMMLNIINSSITTKAISRWSSL ACNIALDAVKMVQFEENGRKE IDIKKYARVEKIPGGIIEDSCVL RGVMINKDVTHPRMRRYIKNP RIVLLDSSLEYKKGGSQTDIEIT REEDFTRILQMEEEYIQQLCE DIIQLKPDVVITEKGISDLAQHY LMRANITAIRRVRKTDNNRIAR ACGARIVSRPEELREDDVGTG AGLLEIKKIGDEYFTFITDCKDP K

				CCAGAGGAACTGAGAGAAGATGATGTTGGAA CAGGAGCAGGCCTGTTGGAAATCAAGAAAAT TGGAGATGAATACTTTACTTTCATCACTGACT GCAAAGACCCCAAGGC		
Shigella ipaH9.8	6	prey66739	165	ATGGACGACAAGGAGTTAATTGAATACTTTAA GTCTCAGATGAAAGAAGATCCTGACATGGCC TCAGCAGTGGCTGCCATCCGGACGTTGCTG GAGTTCTTGAAGAGAGATAAAGGGGAGACAA TCCAGGGTCTGAGGGCGAATCTCACCAGTGC CATAGAAACCCTGTGTGGTGTGGACTCCTCT GTGGCAGTGTCCTCTGGCGGGGAGCTCTTC CTCCGCTTCATCAGTCTTGCCTCCCTGGAAT ACTCCGATTACTCCAAATGTAAAAAGATCATG ATTGAGCGGGGAGAACTTTTTCTCAGGAGAA TATCACTGTCAAGAAACAAAATTGCAGATCTG TGCCATACTTTCATCAAAGATGGAGCGACAAT ATTGACTCACGCCTACTCCAGAGTGGTCCTG AGAGTCCTGGAAGCAGCCGTGGCGGCCAAG AAGCGATTTAGTGTATACGTCACAGAGTCAC AGCCTGATTTGTCAGGTAAGAAAATGGCCAA AGCCCTCTGCCACCTCAACGTCCCTGTCACT GTGGTGCTAGATGCTGCTGTCGGCTACATCA TGGAGAAAGCAGATCTTGTCATAGTTGGTGC TGAAGGAGTTGTTGAAAACGGAGGAATTATT AACAAGATTGGAACCAACCAGATGGCTGTGT GTGCCAAAGCACAGAACAAACCTTTCTATGT GGTTGCAGAAAGTTTCAAGTTTGTCCGGCTC TTTCCACTAAACCAGCAAGACGTCCCAGATA AGTTTAAGTATAAGGCAGACACTCTCAAGGT CGCGCAGACTGGACAAGACCTCAAAGAGGA GCATCCGTGGGTCGACTACACTGCCCCTTCC TTAATCACTCTGCTGTTTACAGACCTGGG	366	MDDKELIEYFKSQMKEDPDMA SAVAAIRTLLEFLKRDKGETIQ GLRANLTSAIETLCGVDSSVAV SSGGELFLRFISLASLEYSDYS KCKKIMIERGELFLRRISLSRN KIADLCHTFIKDGATILTHAYSR VVLRVLEAAVAAKKRFSVYVT ESQPDLSGKKMAKALCHLNVP VTVVLDAAVGYIMEKADLVIVG AEGVVENGGIINKIGTNQMAV CAKAQNKPFYVVAESFKFVRL FPLNQQDVPDKFKYKADTLKV AQTGQDLKEEHPWVDYTAPS LITLLFTDL
Shigella ipaH9.8	6	prey67769	166	GCAGCCTTCAAGGTCGCCACGCCGTATTCCC TGTATGTCTGTCCCGAGGGGCAGAACGTCAC CCTCACCTGCAGGCTCTTGGGCCCTGTGGAC	367	AAFKVATPYSLYVCPEGQNVT LTCRLLGPVDKGHDVTFYKTW YRSSRGEVQTCSERRPIRNLT

				AAAGGGCACGATGTGACCTTCTACAAGACGT GGTACCGCAGCTCGAGGGGCGAGGTGCAGA CCTGCTCAGAGCGCCGGCCCATCCGCAACC TCACGTTCCAGGACCTTCACCTGCACCATGG AGGCCACCAGGCTGCCAACACCAGCCACGA CCTGGCTCAGCGCCACGGGCTGGAGTCGGC CTCCGACCACCATGGCAACTTCTCCATCACC ATGCGCAACCTGACCCTGCTGGATAGCGGC CTCTACTGCTGCCTGGTGGTGGAGATCAGGC ACCACCACTCGGAGCACAGGGTCCATGGTG CCATGGAGCTGCAGGTGCAGACAGGCAAAG ATGCACCATCCAACTGTGTGGTGTACCCATC CTCCTCCCAGGATAGTGAAAACATCACGGCT GCAGCCCTGGCTACGGGTGCCTGCATCGTA GGAATCCTCTGCCTCCCCCTCATCCTGCTCC TGGTCTACAAGCAAAGGCAGGCAGCCTCCAA		FQDLHLHHGGHQAANTSHDL AQRHGLESASDHHGNFSITMR NLTLLDSGLYCCLVVEIRHHHS EHRVHGAMELQVQTGKDAPS NCVVYPSSSQDSENITAAALA TGACIVGILCLPLILLLVYKQRQ AAS
Shigella ipaH9.8	6	prey13613	167	CCTTGGAGCTGGTCCTTTCAGCCATATGATA AAATTAAAAACTAAGCCTCTCCCTCCTGATCC ACCTCGTCTGGAATGTGTTGCCTTTAGCCAC CAGAACCTTAAGCTGAAATGGGGAGAAGGAA CTCCAAAGACATTGTCAACCGATTCTATTCAG TACCACCTTCAGATGGAGGATAAGAATGGAC GGTTTGTATCCCTATACAGAGGACCATGTCAT ACATACAAAGTACAAAGACTTAATGAGTCAAC ATCCTATAAATTCTGTATTCAAGCTTGTAATG AAGCTGGGGAAGGTCCCCTCTCCCAAGAATA TATTTTCACTACTCCAAAATCTGTCCCAGCTG CCTTGAAAGCCCCCAAAATAGAGAAAGTAAA TGATCACATTTGTGAAATTACATGGGAGTGTT TACAGCCAATGAAAGGTGATCCAGTTATTTAC AGTCTTCAAGTTATGTTGGGAAAAGATTCAGA ATTCAAACAGATTTACAAGGGTCCCGACTCTT CCTTCCGGTATTCCAGCCTTCAGCTGAACTG TGAATATCGCTTCCGTGTATGTGCCATTCGC C	368	LGAGPFSHMIKLKTKPLPPDP PRLECVAFSHQNLKLKWGEG TPKTLSTDSIQYHLQMEDKNG RFVSLYRGPCHTYKVQRLNES TSYKFCIQACNEAGEGPLSQE YIFTTPKSVPAALKAPKIEKVN DHICEITWECLQPMKGDPVIYS LQVMLGKDSEFKQIYKGPDSS FRYSSLQLNCEYRFRVCAIR

Shigella ipaH9.8	6	prey3337	168	GGCTCGGCTGAAGGACCTGGAGGCTCTGCT GAACTCCAAGGAGGCCGCACTGAGCACTGC TCTCAGTGAGAAGCGCACGCTGGAGGGCGA GCTGCATGATCTGCGGGGCCAGGTGGCCAA GCTTGAGGCAGCCCTAGGTGAGGCCAAGAA GCAACTTCAGGATGAGATGCTGCGGCGGGT GGATGCTGAGAACAGGCTGCAGACCATGAA GGAGGAACTGGACTTCCAGAAGAACATCTAC AGTGAGGAGCTGCGTGAGACCAAGCGCCGT CATGAGACCCGACTGGTGGAGATTGACAATG GGAAGCAGCGTGAGTTTGAGAGCCGGCTGG CGGATGCGCTGCAGGAACTGCGGGCCCAGC ATGAGGACCAGGTGGAGCAGTATAAGAAGGA GCTGGAGAAGACTTATTCTGCCAAGCTGGAC AATGCCAGGCAGTCTGCTGAGAGGAACAGCA ACCTGGTGGGGGCTGCCCACGAGGAGCTGC AGCAGTCGCGCATCCGCATCGACAGCCTCTC TGCCCAGCTCAGCCAGCTCCAGAAGCAGCT GGCAGCCAAGGAGGCGAAGCTTCGAGACCT GGAGGACTCACTGGCCCGTGAGCGGGACAC CAGCCGGCGGCTGCTGGCGGAAAAGGAGCG GGAGATGGCCGAGATGCGGGCAAGGATGCA GCAGCAGCTGGACGAGTACCAGGAGCTTCT GGACATCAAGCTGGCCCTGGACATGGAGATC CACGCCTACCGCAAGCTCTTGGAGGGCGAG GAGGAGAGGCTACGCCTGTCCCCCAGCCCT ACCTCGCAGCGCAGCCGTGGCCGTGCTTCC TCTCACTCATCCCAGACACAGGGTGGGGGCA GCGTCACCAAAAAGCGCAAACTGGAGTCCAC TGAGAGCCGCAGCAGCTTCTCACAGCACGCA CGCACTAGCGGGCGCGTGGCCGTGGAGGAG GTGGATGAGGAGGGCAAGTTTGTCCGGCTG CGCAACAAGTCCAATGAGGACCAGTCCATGG GCAATTGGCAGATCAAGCGCCAGAATGGAGA TGATCCCTTGCTGACTTACCGGTTCCCACCA AAGTTCACCCTGAAGGCTGGGCAGGTGGTG	369	ARLKDLEALLNSKEAALSTALS EKRTLEGELHDLRGQVAKLEA ALGEAKKQLQDEMLRRVDAE NRLQTMKEELDFQKNIYSEEL RETKRRHETRLVEIDNGKQRE FESRLADALQELRAQHEDQVE QYKKELEKTYSAKLDNARQSA ERNSNLVGAAHEELQQSRIRI DSLSAQLSQLQKQLAAKEAKL RDLEDSLARERDTSRRLLAEK EREMAEMRARMQQQLDEYQ ELLDIKLALDMEIHAYRKLLEG EEERLRLSPSPTSQRSRGRAS SHSSQTQGGGSVTKKRKLES TESRSSFSQHARTSGRVAVEE VDEEGKFVRLRNKSNEDQSM GNWQIKRQNGDDPLLTYRFP PKFTLKAGQVVTIWAAGAGAT HSPPTDLVWKAQNTWGCGNS LRTALINSTGEEVAMRKLVRS VTVVEDDEDEDGDDLLHHHH VSGSRR*

				ACGATCTGGGCTGCAGGAGCTGGGGCCACC CACAGCCCCCCTACCGACCTGGTGTGGAAG GCACAGAACACCTGGGGCTGCGGGAACAGC CTGCGTACGGCTCTCATCAACTCCACTGGGG AAGAAGTGGCCATGCGCAAGCTGGTGCGCT CAGTGACTGTGGTTGAGGACGACGAGGATG AGGATGGAGATGACCTGCTCCATCACCACCA TGTGAGTGGTAGCCGCCGCTGA		
Shigella ipaH9.8	6	prey67774	169	CCCACCTCCTGGCCGGTCCTTGAAGTTTTCT GGGGTCTATGGGCCAATAATCTGCCAGAGAC CAAGTACCAATGAGCTTCCCCTATTTGACTTT CCTGTCAAAGAGGTTTTTGAACTGCTCGGGG TGGAGAATGTGTTTCAGCTTTTTACTTGTGCC CTTCTGGAGTTTCAAATCCTGCTCTACTCACA GCATTACCAGAGACTGATGACTGTGGCGGAG ACGATTACAGCTCTCATGTTTCCTTTCCAGTG GCAGCATGTCTATGTCCCTATTCTCCCAGCTT CTCTCCTGCATTTCTTAGATGCTCCTGTTCCA TACCTGATGGGTTTGCATTCCAATGGCCTGG ATGACCGGTCAAAGCTGGAGCTGCCTCAAGA GGCTAACCTCTGCTTTGTGGACATTGACAAC CACTTCATTGAGTTGCCAGAGGACTTGCCAC AGTTCCCCAACAAATTGGAGTTTGTCCAGGA AGTCTCTGAGATTCTCATGGCATTTGGAATTC CCCCTGAAGGGAATCTTCATTGCAGTGAGAG TGCCTCCAAGCTGAAGAGGCTGCGGGCCTC TGAGCTTGTCTCGGACAAGAGGAATGGGAAC ATTGCTGGCTCCCCTTTGCATTCCTACGAGC TTCTTAAGGAGAATGAAACTATTGCCCGGCT GCAAGCCTTGGTCAAGAGAACTGGGGTGAG CCTGGAAAAGTTGGAAGTGCGTGAAGACCCC AGCAGCAATAAGGATCTCAAAGTTCAGTGTG ATGAAGAAGAACTCAGGATTTACCAGCTAAA CATTCAGATCCGGGAAGTTTTTGCAAATCGTT TCACTCAGATGTTTGCAGATTATGAGGTGTTT	370	PPPGRSLKFSGVYGPIICQRP STNELPLFDFPVKEVFELLGVE NVFQLFTCALLEFQILLYSQHY QRLMTVAETITALMFPFQWQH VYVPILPASLLHFLDAPVPYLM GLHSNGLDDRSKLELPQEANL CFVDIDNHFIELPEDLPQFPNK LEFVQEVSEILMAFGIPPEGNL HCSESASKLKRLRASELVSDK RNGNIAGSPLHSYELLKENETI ARLQALVKRTGVSLEKLEVRE DPSSNKDLKVQCDEEELRIYQ LNIQIREVFANRFTQMFADYEV FVIQPSQDKESWFTNREQMQ NFDKASFLSDQPEPYLPFLSR FLETQMFASFIDNKIMCHDDD DKDPVLRVFDSRVDKIRLLNV RTPTLRTSMYQKCTTVDEAEK AIELRLAKIDHTAIHPHLLDMKI GQGKYEPGFFPKLQSDVLST GPASNKWTKRNAPAQWRRK DRQKQHTEHLRLDNDQREKYI QEARTMGSTIRQ

				GTCATCCAACCCAGCCAGGATAAGGAATCCT GGTTTACCAACAGGGAGCAAATGCAAAACTT TGATAAAGCATCTTTTCTGTCAGATCAGCCTG AGCCCTACCTGCCCTTCCTCTCAAGATTCCT GGAGACCCAGATGTTTGCATCTTTCATTGACA ACAAAATAATGTGTCATGATGATGATGATAAA GACCCTGTACTCCGGGTATTTGATTCCCGAG TTGACAAGATCAGGCTGTTGAATGTTCGGAC ACCTACTCTCCGTACATCCATGTACCAGAAGT GTACCACTGTGGATGAAGCAGAGAAAGCAAT TGAGCTGCGTCTGGCAAAAATTGACCATACT GCAATTCACCCACATTTACTTGACATGAAGAT TGGACAAGGGAAATATGAGCCGGGCTTCTTC CCTAAGCTGCAGTCTGATGTACTTTCCACTG GGCCAGCCAGCAACAAGTGGACGAAAAGGA ATGCCCCTGCCCAGTGGAGGCGGAAAGATC GGCAGAAGCAGCACACAGAACACCTGCGTTT AGATAATGACCAGAGGGAGAAGTACATCCAG GAAGCCAGGACTATGGGCAGCACTATCCGC CAG		
Shigella ipaH9.8	6	prey67776	170	TGGGATTCAACTAAAATTAGCAAAGCATACTA CAAAGCAATGGTAATTAGCACTTGGTGTTACT GGCTAAGAAAGAGGCACTTGATGCATGAAAC AGACTCACGTGTACCTGTGAGTTTATTATTTG ATACAAGTGCCATTTCAAATCAGCAAGGGAAT TGGGCCAATTTGTTATCCATTTTGAAAACATA TNAAGTTTGATNCCTACNTGACAACGTNCTNT NAAATGGGTGGGAGGTGGATNGGNCATGTG GGTGTNANGCGGTGNNGGCGG	371	WDSTKISKAYYKAMVISTWCY WLRKRHLMHETDSRVPVSLLF DTSAISNQQGNWANLLSILKTY XV*XLXDNVLXNGWEVDXXCG CXAVXA
Shigella ipaH9.8	6	prey4758	171	GCTCAGTGCTCTGGAGTCCACGGTGCCTCCC AGCCAGCCTCCACCTGTGGGCACCTCAGCC ATCCACATGAGCCTGCTTGAGATGAGGCGGA GCGTGGCGGAACTCAGGCTCCAGCTCCAGC AGATGCGGCAGCTCCAGCTGCAGAACCAGG AGTTGCTGAGGGCAATGATGAAGAAGGCCGA	372	LSALESTVPPSQPPPVGTSAIH MSLLEMRRSVAELRLQLQQM RQLQLQNQELLRAMMKKAEL EISGKVMETMKRLEDPVQRQ RVLVEQERQKYLHEEEKIVKK LCELEDFVEDLKKDSTAASRL

				GCTGGAAATCAGTGGCAAAGTGATGGAAACA ATGAAGAGACTGGAGGATCCCGTGCAGCGA CAGCGCGTCCTAGTGGAGCAAGAGAGACAA AAATATCTTCATGAGGAAGAGAAGATCGTCAA GAAGTTGTGCGAGTTGGAAGACTTTGTTGAA GACTTGAAGAAGGACTCCACGGCAGCCAGC CGATTGGTTACTCTGAAAGACGTGGAAGACG GGGCTTTCCTCCTGCGTCAAGTGGGAGAGG CTGTAGCTACCCTGAAAGGAGAATTTCCAAC CTTACAAAACAAGATGCGAGCCATCCTGCGC ATAGAAGTGGAGGCCGTGCGGTTTCTGAAGG AGGAGCCACACAAGCTGGACAGTCTCCTGAA GCGTGTGCGCAGCATGACAGACGTCCTGAC CATGCTGCGGAGACATGTCACTGATGGGCTC CTGAAAGGCACGGACGCAGCCCAAGCCGCA CAGTACATGGCTATGGAAAAGGCCACAGCCG CAGAAGTCCTGAAGAGTCAGGAGGAGGCAG CCCACACCTCCGGCCAGCCCTTCCACAGCAC AGGTGCCCCTGGCGATGCGAAGTCGGAAGT GGTGCCTTTGTCCGGCATGATGGTTCGCCAC GCGCAGAGCTCCCCTGTGGTCATCCAGCCCT CCCAGCACTCCGTGGCCCTGCTGAACCCTG CTCAGAACTTGCCTCACGTGGCCAGCTCCCC AGCCGTC		VTLKDVEDGAFLLRQVGEAVA TLKGEFPTLQNKMRAILRIEVE AVRFLKEEPHKLDSLLKRVRS MTDVLTMLRRHVTDGLLKGTD AAQAAQYMAMEKATAAEVLK SQEEAAHTSGQPFHSTGAPG DAKSEVVPLSGMMVRHAQSS PVVIQPSQHSVALLNPAQNLP HVASSPAV
Shigella ipaH9.8	6	prey67781	172	CCTGAGGACCAACCACATTGGGTGGGTGCA GGAGTTCCTCAATGAAGAGAACCGTGGCCTG GATGTGCTGCTCGAGTACCTGGCCTTTGCCC AGTGCTCTGTCACGTATGACATGGAGAGCAC AGACAACGGGGCTTCCAACTCAGAGAAAAAC AAGCCCCTGGAGCAGTCTGTGGAAGACCTCA GCAAGGGTCCACCCTCCTCCGTGCCCAAAAG CCGCCACCTGACCATCAAGCTGACCCCAGCC CACAGCAGGAAGGCCCTGCGG	373	LRTNHIGWVQEFLNEENRGLD VLLEYLAFAQCSVTYDMESTD NGASNSEKNKPLEQSVEDLSK GPPSSVPKSRHLTIKLTPAHSR KALR
Shigella ipaH9.8	6	prey2109	173	GACTAAGGATCACCATTACTTTAAGTACTGCA AAATCTCAGCATTGGCTCTTCTGAAGATGGT	374	TKDHHYFKYCKISALALLKMV MHARSGGNLEVMGLMLGKVD

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				GATGCATGCCAGATCGGGAGGCAATTTGGAA GTGATGGGTCTGATGCTAGGAAAGGTGGATG GTGAAACCATGATCATTATGGACAGTTTTGCT TTGCCTGTGGAGGGCACTGAAACCCGAGTAA ATGCTCAGGCTGCTGCATATGAATACATGGC TGCATACATAGAAAATGCAAAACAGGTTGGC CGCCTTGAAAATGCAATCGGGTGGTATCATA GCCACCCTGGCTATGGCTGCTGGCTTTCTGG GATTGATGTTAGTACTCAGATGCTCAATCAGC AGTTCCAGGAACCATTTGTAGCAGTGGTGAT TGATCCAACAAGAACAATATCCGCAGGGAAA GTGAATCTTGGCGCCTTTAGGACATACCCAA AGGGCTACAAACCTCCTGATGAAGGACCTTC TGAGTACCAGACTATTCCACTTAATAAAATAG AAGATTTTGGTGTACACTGCAAACAATATTAT GCCTTAGAAGTCTCATATTTCAAATCCTCTTT GGATCGCAAATTGCTTGAGCTGTTGTGGAAT AAATACTGGGTGAATACGTTGAGTTCTTCTAG CTTGCTTACTAATGC		GETMIIMDSFALPVEGTETRVN AQAAAYEYMAAYIENAKQVGR LENAIGWYHSHPGYGCWLSGI DVSTQMLNQQFQEPFVAVVID PTRTISAGKVNLGAFRTYPKG YKPPDEGPSEYQTIPLNKIEDF GVHCKQYYALEVSYFKSSLDR KLLELLWNKYWVNTLSSSSLL TN
Shigella ipaH9.8	6	prey4060	174	GGCAAATCACTTTTTCTTCAAAAAGGATTATA GTAAAGTCCAGCATCTGGCCCTCCATGCATT CCATAATACAGAAGTGGAAGCTATGCAAGCA GAGAGCTGCTATCAGCTAGCTAGATCATTCC ATGTTCAGGAAGATTATGACCAAGCTTTTCAG TACTATTATCAAGCCACACAGTTTGCCTCATC CTCTTTTGTGCTCCCATTTTTTGGTTTGGGAC AAATGTATATTTATCGAGGTGACAAAGAAAAT GCATCTCAGTGCTTTGAGAAGGTTTTGAAAG CTTATCCTAATAATTACGAAACTATGAAAATTC TCGGCTCTCTCTATGCTGCCTCAGAAGATCA AGAAAAACGAGATATTGCCAAGGGCCATTTG AAGAAGGTCACAGAACAGTATCCCGATGATG TTGAAGCTTGGATTGAATTGGCACAAATCTTA GAACAGACTGATATACAGGGTGCCCTTTCAG CCTATGGAACAGCAACACGAATCCTTCAGGA	375	ANHFFFKKDYSKVQHLALHAF HNTEVEAMQAESCYQLARSF HVQEDYDQAFQYYYQATQFA SSSFVLPFFGLGQMYIYRGDK ENASQCFEKVLKAYPNNYETM KILGSLYAASEDQEKRDIAKGH LKKVTEQYPDDVEAWIELAQIL EQTDIQGALSAYGTATRILQEK VQADVPPEILNNVGALHFRLG NLGEAKKYFLASLDRAKAEAE HDEHYYNAISVTTSYNLARLYE AMCEFHEAEKLYKNILREHPN YVDCYLRLGAMARDKGNFYE ASDWFKEALQINQDHPDAWS LIGNLHLAKQEWGPGQKKFER ILKQPSTQSDTYSMLALGNVW

				GAAAGTGCAGGCCGATGTTCCTCCAGAGATT CTCAATAATGTGGGTGCCCTCCATTTTAGACT TGGAAACCTAGGGGAGGCTAAGAAATATTTT TTGGCGTCATTGGACCGTGCAAAAGCAGAAG CGGAACACGATGAGCATTACTATAACGCCAT TTCCGTTACCACGTCATATAATCTCGCCAGG CTATATGAGGCGATGTGTGAATTCCATGAAG CAGAAAAACTGTATAAAAACATCTTACGCGAA CATCCTAATTATGTTGACTGCTATTTGCGCCT AGGAGCCATGGCTAGAGATAAGGGAAACTTT TATGAGGCTTCAGATTGGTTTAAGGAAGCTCT TCAGATTAATCAGGATCATCCAGATGCTTGGT CTTTGATTGGCAATCTTCATTTGGCAAAACAA GAATGGGGTCCTGGGCAGAAGAAGTTTGAGA GGATATTAAAACAGCCATCCACACAGAGTGA TACCTATTCTATGCTAGCCCTTGGCAACGTGT GGCTCCAAACTTTACATCAGCCCACCCGAGA TCGAGAAAAGGAAAAGCGTCATCAAGATCGT GCTCTGGCCATCTACAAACAAGTACTCAGAA ATGATGCAAAGAATCTGTATGCTGCCAATGG CATAGGAGCTGTTTTGGCCCACAAAGGATAT TTTCGTGAAGCTCGTGATGTATTTGCCCAAGT AAGAGAAGCAACAGCAGATATTAGTGATGTG TGGCTGAACTTAGCACACATCTATGTGGAGC AAAAGCAGTACATCAGCGCCGTTCAGATGTA TGAAAACTGCCTCCGAAAGTTCTATAAGCA		LQTLHQPTRDREKEKRHQDR ALAIYKQVLRNDAKNLYAANGI GAVLAHKGYFREARDVFAQV REATADISDVWLNLAHIYVEQK QYISAVQMYENCLRKFYK
Shigella ipaH9.8	6	prey49284	175	CTCATCAACTACGTGGGCTTCATCAACTACCT CTTCTATGGGGGCACGGTTGCTGGACAGATA GTCCTTCGCTGGAAGAAGCCTGATATCCCCC GCCCCATCAAGATCAACCTGCTGTTCCCCAT CATCTACTTGCTGTTCTGGGCCTTCCTGCTG GTCTTCAGCCTGTGGTCAGAGCCGGTGGTGT GTGGCATTGGCCTGGCCATCATGCTGACAGG AGTGCCTGTCTATTTCCTGGGTGTTTACTGG CAACACAAGCCCAAGTGTTTCAGTGACTTCAT	376	LINYVGFINYLFYGGTVAGQIV LRWKKPDIPRPIKINLLFPIIYLL FWAFLLVFSLWSEPVVCGIGL AIMLTGVPVYFLGVYWQHKPK CFSDFIELLTLVSQKMCVVVYP EVERGSGTEEANEDMEEQQQ PMYQPTPTKDKDVAGQPQP*

				TGAGCTGCTAACCCTGGTGAGCCAGAAGATG TGTGTGGTCGTGTACCCCGAGGTGGAGCGG GGCTCAGGGACAGAGGAGGCTAATGAGGAC ATGGAGGAGCAGCAGCAGCCCATGTACCAA CCCACTCCCACGAAGGACAAGGACGTGGCG GGGCAGCCCCAGCCCTGA		
Shigella ipaH9.8	6	prey67686	176	CTGGGATTACAGGCATGAGCCACAGCACCTG GCTGAGTTTTCTCAGCACCATTTATTGAATAG ACTGTCCTTTCCCTGGTGTATGTTATTGCATT TGTTGAAAATGAGTTCACCATAGATGTGTAGA TTTATTTCTGGGTTCTCTATCCTGTTCTGTTG GTCTATATGTCTGTTTTCATGCTGGTACCATG CTGTTTTGGTTACTACGGCTCTGTAGTATAAT CTGAAGTCAGGTAATGTGATTCCTCCANTTTT GTTCTTTCTGCTNANG	377	LGLQA*ATAPG*VFSAPFIE*TV LSLVYVIAFVENEFTIDV*IYFW VLYPVLLVYMSVFMLVPCCFG YYGSVV*SEVR*CDSSXFVLSA X
Shigella ipaH9.8	6	prey66872	177	TTTCACTCAAGAAGATATTGACAGAGCTATTG CTTACCTTTTCCCAAGTGGTTTGTTTGAGAAA CGAGCCAGGCCAGTAATGAAGCATCCTGAAC AGATTTTTCCAAGACAAAGAGCAATCCAGTG GGGAGAAGATGGCCGTCCATTTCACTATCTC TTCTATACTGGCAAACAGTCATACTATTCATT AATGATTACCAGCTTTACTTCCCGATCACACA GGACAGAGAACAGCTGA	378	FTQEDIDRAIAYLFPSGLFEKR ARPVMKHPEQIFPRQRAIQWG EDGRPFHYLFYTGKQSYYSLM ITSFTSRSHRTENS*
Shigella ipaH9.8	6	prey67690	178	ATGGAGATGAGGCTTCCAGTGGCTCGCAAGC CTCTTAGCGAGAGACTGGGCCGCGACACTAA GAAACATCTAGTGGTGCCGGGGGATACAATC ACTACGGACACAGGATTCATGCGGGGCCATG GAACGTATATGGGAGAAGAGAAGCTCATTGC ATCTGTTGCTGGCTCTGTGGAGAGAGTAAAC AAGTTGATCTGTGTGAAAGCTTTGAAAACCAG ATACATTGGTGAAGTAGGAGACATCGTAGTG GGACGAATCACAGAGAGGAGAAGATCTGCA GAAGATGAGCTTGCAATGAGAGGTTTCTTAC AGGAAGGGGACCTTATCAGTGCTGAGGTCCA GGCAGTGTTCTCTGACGGAGCTGTCTCTTTG	379	MEMRLPVARKPLSERLGRDT KKHLVVPGDTITTDTGFMRGH GTYMGEEKLIASVAGSVERVN KLICVKALKTRYIGEVGDIVVG RITERRRSAEDELAMRGFLQE GDLISAEVQAVFSDGAVSLHT RSLKYGKLGQGVLVQVSPSLV KRQKTHFHDLPCGASVILGNN GFIWIYPTPEHKEEEAGGFIAN LEPVSLADREVISRLRNCIISLV TQRMMLYDTSILYCYEASLPH QIKDILKPEIMEEIVMETRQRLL

				CACACGAGGAGCCTGAAATATGGAAAACTAG GTCAGGGGGTTTTGGTCCAGGTTTCCCCCTC CCTGGTGAAACGGCAGAAGACCCACTTTCAT GATTTGCCATGTGGTGCCTCAGTGATTCTCG GTAACAACGGCTTCATCTGGATTTACCCAACA CCTGAGCACAAAGAAGAGGAAGCAGGGGGC TTCATTGCAAACCTGGAGCCTGTCTCTCTTGC TGATCGAGAGGTGATATCCCGGCTTCGGAAC TGCATCATCTCGCTGGTAACTCAGAGGATGA TGCTGTATGATACCAGCATCCTGTACTGCTAT GAAGCATCCCTTCCACATCAGATCAAAGACA TCTTAAAGCCAGAAATAATGGAGGAGATTGT GATGGAAACACGCCAGAGGCTTTTGGAACAG GAGGGATAA		EQEG*
Shigella ipaH9.8	6	prey67695	179	CAAAGATTTAAATATGAATGTGAACAGCTTTC AAAGGAAATTTGTGAATGAAGTCAGAAGGTG TGAATCACTGGAGAGAATCCTCCGTTTTCTG GAAGACGAGATGCAAAATGAGATTGTAGTTC AGTTGCTCGAGAAAAGCCCACTGACCCCGCT CCCACGGGAAATGATTACCCTGGAGACTGTT CTAGAAAAACTGGAAGGAGAGTTACAGGAAG CCAACCAGAACCAGCAGGCCTTGAAACAAAG CTTCCTAGAACTGACAGAACTGAAATACCTCC TGAAGAAAACCCAAGACTTCTTTGAGACGGA AACCAATTTAGCTGATGATTTCTTTACTGAGG ACACTTCTGGCCTCCTGGAGTTGAAAGCAGT GCCTGCATATATGACCGGAAAGTTGGGGTTC ATAGCCGGTGTGATCAACAGGGAGAGGATG GCTTCCTTTGAGCGGTTACTGTGGCGAATCT GCCGAGGAAACGTGTACTTGAAGTTCAGTGA GATGGACGCCCCTCTGGAGGATCCTGTGAC GAAAGAAGAAATTCAGAAGAACATATTCATCA TATTTTACCAAGGAGAGCAGCTCAGGCAGAA AATCAAGAAGATCTGTGATGGGTTTCGAGCC ACTGTCTACCCTTGCCCAGAGCCTGCGGTGG	380	KDLNMNVNSFQRKFVNEVRR CESLERILRFLEDEMQNEIVVQ LLEKSPLTPLPREMITLETVLE KLEGELQEANQNQQALKQSFL ELTELKYLLKKTQDFFETETNL ADDFFTEDTSGLLELKAVPAY MTGKLGFIAGVINRERMASFE RLLWRICRGNVYLKFSEMDAP LEDPVTKEEIQKNIFIIFYQGEQ LRQKIKKICDGFRATVYPCPEP AVERREMLESVNVRLEDLITVI TQTESHRQRLLQEAAANWHS WLIKVQKMKAVYHILNMCNIDV TQQCVIAEIWFPVADATRIKRA LEQGMELSGSSMAPIMTTVQS KTAPPTFNR

				AGCGCAGAGAGATGTTGGAGAGCGTCAATGT GAGGCTGGAAGATTTAATCACCGTCATAACA CAAACAGAGTCTCACCGCCAGCGCCTGCTGC AGGAAGCCGCTGCCAACTGGCACTCCTGGC TCATCAAGGTGCAGAAGATGAAAGCTGTCTA CCACATCCTGAACATGTGCAACATCGACGTC ACCCAGCAGTGTGTCATCGCCGAGATCTGGT TCCCGGTGGCAGATGCCACACGTATCAAGAG GGCACTGGAGCAAGGCATGGAACTAAGTGG CTCCTCCATGGCCCCCATCATGACCACAGTG CAATCTAAAACAGCCCCTCCCACATTTAACAG GAC		
Shigella ipaH9.8	6	prey67336	180	ATGGGAGTGACATGGGACTTCAGCATGAGCA ATGGAGGGCCCCGTGGGAAGACCTATGCTTT CAAGGGGGACTATGTGTGGACTGTATCAGAT TCAGGACCGGGCCCCTTGTTCCGAGTGTCTG CCCTTTGGGAGGGGCTCCCCGGAAACCTGG ATGCTGCTGTCTACTCGCCTCGAACACAATG GATTCACTTCTTTAAGGGAGACAAGGTGTGG CGCTACATTAATTTCAAGATGTCTCCTGGCTT CCCCAAGAAGCTGAATAGGGTAGAACCTAAC CTGGATGCAGCTCTCTATTGGCCTCTCAACC AAAAGGTGTTCCTCTTTAAGGGCTCCGGGTA CTGGCAGTGGGACGAGCTAGCCCGAACTGA CTTCAGCAGCTACCCCAAACCAATCAAGGGT TTGTTTACGGGAGTGCCAAACCAGCCCTCGG CTGCTATGAGTTGGCAAGATGGCCGAGTCTA CTTCTTCAAGGGCAAAGTCTACTGGCGCCTC AACCAGCAGCTTCGAGTAGAGAAAGGCTATC CCAGAAATATTTCCCACAACTGGATGCACTGT CGTCCCCGGACTATAGACACTACCCCATCAG GTGGGAATACCACTCCCTCAGGTACGGGCAT AACCTTGGATACCACTCTCTCAGCCACAGAA ACCACGTTTGAATACTGA	381	MGVTWDFSMSNGGPRGKTY AFKGDYVWTVSDSGPGPLFR VSALWEGLPGNLDAAVYSPRT QWIHFFKGDKVWRYINFKMSP GFPKKLNRVEPNLDAALYWPL NQKVFLFKGSGYWQWDELAR TDFSSYPKPIKGLFTGVPNQP SAAMSWQDGRVYFFKGKVY WRLNQQLRVEKGYPRNISHN WMHCRPRTIDTTPSGGNTTP SGTGITLDTTLSATETTFEY*
Shigella	6	prey6299	181	AGACCAGAGCCATGTTGTTCAAGAGCATTTA	382	DQSHVVQEHLSEEKDERLHC

ipaH9.8				AGTGAAGAAAAGGATGAAAGACTACACTGTG		ENNDKAPESESEKPTPLSTGQ
				AGAATAATGATAAAGCCCCTGAATCAGAGTC		GNRAEEGPNASSGFMKTAVL
				AGAGAAGCCAACTCCTCTGTCCACTGGGCAA		GPTLKNVMMKNNKLAVSPNY
				GGTAATAGAGCTGAAGAGGGACCAAACGCTA		NATFMGFKMMDGKQHIVLKLV
				GTTCAGGTTTCATGAAGACTGCTGTACTAGG		PIKQNVCSPGSQSGAAKDGTA
				ACCTACACTGAAAAATGTAATGATGAAAAATA		NLQPQTLDTNGFLTGVTTELN
				ATAAACTAGCAGTTTCCCCTAACTATAATGCT		DTVYMKAATPFSCSSSILSGK
				ACGTTTATGGGCTTCAAGATGATGGATGGAA		ASSEKEMTLISQRNNMLQTMD
				AACAGCATATTGTATTAAAATTGGTGCCTATC		YEKSVSSLSATSELVTASVNLT
				AAACAAAATGTATGTTCACCAGGCTCACAGTC		TKFETRDNVDFWGNHLTQSH
				AGGTGCTGCAAAGGACGGTACTGCTAATTTG		PEVLGTTIKSPDKVNCVAKPN
				CAGCCCCAGACTTTGGACACTAATGGATTTTT		AYNSGDMHNYCINYGNCELP
				AACAGGAGTAACAACTGAGTTAAATGACACA		VESSNQGSLPFHNYSKVNNS
				GTTTATATGAAAGCAGCTACTCCATTTTCATG		NKRRRFSGTAVYENPQRESS
				TTCATCTTCTATACTTTCAGGGAAAGCAAGTT		SSKTVVQQPISESFLSLVRQE
				CAGAAAAAGAAATGACTTTGATATCTCAAAGG		SSKPDSLLASISLLNDKDGTLK
				AATAATATGCTTCAAACAATGGATTATGAGAA		AKSEIEEQYVLEKGQNIDGQN
				AAGTGTATCTTCTTTGTCAGCAACATCAGAAT		LYSNENQNLECATEKSKWED
				TGGTTACAGCATCAGTGAATTTGACCACAAAA		FSNVDSPMMPRITSVFSLQSQ
				TTTGAAACAAGAGATAATGTTGACTTCTGGGG		QASEFLPPEVNQLLQDVLKIKP
				AAATCATCTCACTCAGAGTCACCCCGAGGTA		DVKQDSSNTPNKGLPLHCDQ
				TTAGGTACCACCATTAAAAGTCCAGATAAAGT		SFQKHEREGKIVESSKDFKVQ
				CAACTGTGTTGCCAAACCAAATGCATACAACA		GIFPVPPGSVGINVPTNDLNLK
				GTGGAGATATGCATAATTATTGCATTAATTAT		FGKEKQVSSIPQDVRDSEKMP
				GGCAACTGTGAGTTACCTGTTGAATCCTCCA		RISGFGTLLKTQSDAIITQQLVK
				ACCAAGGATCATTACCTTTTCATAATTACTCA		DKLRATTQNLGSFYMQSPLLN
				AAAGTGAATAATTCTAATAAACGTCGTAGGTT		SEQKKTIIVQTSKGFLIPLNITN
				TTCAGGAACAGCAGTGTATGAAAACCCTCAA		KPGLPVIPGNALPLVNSQGIPA
				AGAGAATCTTCATCCAGCAAAACAGTTGTCCA		SLFVNKKPGMVLTLNNGKLEG
				ACAACCAATTAGTGAATCATTTTTATCACTAG		VSAVKTEGAPARGTVTKEPCK
				TGAGGCAGGAGAGCTCAAAACCAGATAGCCT		TPILKVEPNNNCLTPGLCSSIG
				ATTAGCATCTATTAGCCTTTTAAATGATAAAG		SCLSMKSSSENTLPLKGPYILK
				ATGGAACTTTAAAAGCAAAATCTGAAATTGAA		PTSSVKAVLIPNMLSEQQSTKL
				GAACAGTATGTTTTAGAAAAAGGACAAAACAT		NISDSVKQQNEIFPKPPLYTFL
				TGATGGACAAAACCTGTACAGTAATGAAAATC		PDGKQAVFLKCVMPNKTELLK
				AAAATTTAGAGTGTGCGACTGAAAAATCTAAA		PKLVQNSTYQNIQPKKPEGTP

				TGGGAAGACTTTTCTAATGTCGATTCACCTAT GATGCCTAGAATCACATCTGTTTTCTCTCTCC AGAGCCAACAGGCATCAGAATTTCTGCCACC TGAAGTAAACCAATTGCTTCAGGATGTATTGA AAATAAAACCTGATGTAAAACAAGACTCTAGT AACACTCCAAATAAAGGCTTGCCACTTCATTG TGACCAGTCATTTCAAAAACACGAGAGAGAA GGCAAAATTGTTGAATCTTCGAAAGATTTCAA AGTGCAAGGCATCTTCCCAGTTCCACCTGGC AGTGTGGGTATTAATGTGCCTACAAATGATTT GAATTTGAAATTTGGAAAAGAAAAACAAGTGT CATCAATACCACAAGATGTGAGAGATTCAGA GAAGATGCCTAGAATTTCAGGTTTTGGCACAT TACTTAAGACTCAGTCAGATGCGATAATAACA CAGCAGCTTGTAAAAGACAAACTACGAGCCA CCACACAAAATTTAGGTTCTTTTTATATGCAG AGTCCACTTTTAAATTCAGAACAAAAAAAAAC TATAATTGTTCAGACTTCAAAAGGATTCTTAAT ACCATTGAACATTACTAACAAGCCTGGGCTA CCAGTTATTCCTGGAAATGCACTTCCATTGGT TAATTCACAAGGTATCCCTGCTTCTCTTTTTG TAAACAAGAAACCTGGGATGGTTTTAACACTT AATAATGGGAAACTTGAAGGTGTTTCCGCTG TCAAAACCGAGGGTGCCCCAGCTCGTGGAA CTGTGACTAAGGAGCCTTGCAAAACACCTAT TTTGAAGGTAGAACCAAACAATAATTGTCTTA CACCTGGACTTTGTTCCAGCATTGGCAGTTG TTTGAGCATGAAAAGTAGCTCAGAAAATACTT TGCCATTAAAAGGCCCTTACATTTTGAAACCA ACGAGTTCTGTGAAAGCTGTTCTTATTCCTAA CATGCTATCTGAGCAACAGAGCACTAAGTTG AATATCTCCGATTCAGTAAAACAGCAGAATGA GATTTTTCCAAAACCACCTCTTTATACCTTCTT GCCTGATGGCAAACAAGCTGTTTTTTTAAAGT GTGTGATGCCAAATAAAACTGAGCTGCTTAA GCCCAAATTAGTCCAAAATAGTACTTATCAAA		QRILLKIFNPVLNVTAANNLSV SNSASSLQKDNVPSNQIIGGE QKEPESRDALPFLLDDLMPAN EIVITSTATCPESSEEPICVSDC SESRVLRCKTNCRIERNFNRK KTSKKNFFKNKNSWK*

				ATATACAGCCAAAGAAACCTGAAGGAACACC ACAAAGAATATTGCTGAAAATTTTTAACCCTG TTTTAAATGTGACTGCTGCTAATAATCTGTCA GTAAGCAACTCTGCATCCTCATTGCAAAAAGA CAACGTACCATCTAATCAGATTATAGGAGGA GAGCAGAAAGAGCCAGAATCTAGAGATGCCT TACCCTTCTTACTAGATGACTTAATGCCAGCA AATGAAATTGTGATAACTTCTACTGCAACATG CCCAGAATCTTCTGAGGAACCAATATGTGTC AGTGACTGTTCAGAGTCCAGGGTATTAAGGT GTAAAACAAATTGTAGAATTGAGAGGAACTTC AATAGAAAAAAGACTTCCAAAAAAAATTTTTTC AAAAACAAAAACTCATGGAAGTAA		
Shigella ipaH9.8	6	prey6586	182	CGCGCCGTGGAAGAAGATCCAGCAGAACAC TTTCACGCGCTGGTGCAACGAGCACCTGAAG TGCGTGAGCAAGCGCATCGCCAACCTGCAG ACGGACCTGAGCGACGGGCTGCGGCTTATC GCGCTGTTGGAGGTGCTCAGCCAGAAGAAG ATGCACCGCAAGCACAACCAGCGGCCCACTT TCCGCCAAATGCAGCTTGAGAACGTGTCGGT GGCGCTCGAGTTCCTGGACCGCGAGAGCAT CAAACTGGTGTCCATCGACAGCAAGGCCATC GTGGACGGGAACCTGAAGCTGATCCTGGGC CTCATCTGGACCCTGATCCTGCACTACTCCA TCTCCATGCCCATGTGGGACGAGGAGGAGG ATGAGGAGGCCAAGAAGCAGACCCCCAAGC AGAGGCTCCTGGGCTGGATCCAGAACAAGCT GCCGCAGCTGCCCATCACCAACTTCAGCCG GGACTGGCAGAGCGGCCGGGCCCTGGGCG CCCTGGTGGACAGCTGTGCCCCGGGCCTGT GTCCTGACTGGGACTCTTGGGACGCCAGCAA GCCCGTTACCAATGCGCGAGAGGCCATGCA GCAGGCGGATGACTGGCTGGGCATCCCCCA GGTGATCACCCCCGAGGAGATTGTGGACCC CAACGTGGACGAGCACTCTGTCATGACCTAC	383	APWKKIQQNTFTRWCNEHLK CVSKRIANLQTDLSDGLRLIAL LEVLSQKKMHRKHNQRPTFR QMQLENVSVALEFLDRESIKL VSIDSKAIVDGNLKLILGLIWTLI LHYSISMPMWDEEEDEEAKK QTPKQRLLGWIQNKLPQLPIT NFSRDWQSGRALGALVDSCA PGLCPDWDSWDASKPVTNAR EAMQQADDWLGIPQVITPEEI VDPNVDEHSVMTYLSQFPKAK LKPGAPLRPKLNPKKARAYGP GIEPTGNMVKKRAEFTVETRS AGQGEVLVYVEDPAGHQEEA KVTANNDKNRTFSVWYVPEV TGTHKVTVLFAGQHIAKSPFE VYVDKSQGDASKVTAQGPGL EPSGNIANKTTYFEIFTAGAGT GEVEVVIQDPMGQKGTVEPQ LEARGDSTYRCSYQPTMEGV HTVHVTFAGVPIPRSPYTVTV GQACNPSACRAVGRGLQPKG

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				CTGTCCCAGTTCCCCAAGGCCAAGCTGAAGC		VRVKETADFKVYTKGAGSGEL
				CAGGGGCTCCCTTGCGCCCCAAACTGAACC		KVTVKGPKGEERVKQKDLGD
				CGAAGAAAGCCCGTGCCTACGGGCCAGGCA		GVYGFEYYPMVPGTYIVTITW
				TCGAGCCCACAGGCAACATGGTGAAGAAGC		GGQNIGRSPFEVKVGTECGN
				GGGCAGAGTTCACTGTGGAGACCAGAAGTG		QKVRAWGPGLEGGVVGKSAD
				CTGGCCAGGGAGAGGTGCTGGTGTACGTGG		FVVEAIGDDVGTLGFSVEGPS
				AGGACCCGGCCGGACACCAGGAGGAGGCAA		QAKIECDDKGDGSCDVRYWP
				AAGTGACCGCCAATAACGACAAGAACCGCAC		QEAGEYAVHVLCNSEDIRLSP
				CTTCTCCGTCTGGTACGTCCCCGAGGTGACG		FMADIRDAPQDFHPDRVKAR
				GGGACTCATAAGGTTACTGTGCTCTTTGCTG		GPGLEKTGVAVNKPAEFTVDA
				GCCAGCACATCGCCAAGAGCCCCTTCGAGG		KHGGKAPLRVQVQDNEGCPV
				TGTACGTGGATAAGTCACAGGGTGACGCCAG		EALVKDNGNGTYSCSYVPRK
				CAAAGTGACAGCCCAAGGTCCCGGCCTGGA		PVKHTAMVSWGGVSIPNSPF
				GCCCAGTGGCAACATCGCCAACAAGACCACC		RVNVGAGSHPNKVKVYGPGV
				TACTTTGAGATCTTTACGGCAGGAGCTGGCA		AKTGLKAHEPTYFTVDCAEAG
				CGGGCGAGGTCGAGGTTGTGATCCAGGACC		QGDVSIGIKCAPGVVGPAEADI
				CCATGGGACAGAAGGGCACGGTAGAGCCTC		DFDIIRNDNDTFTVKYTPRGAG
				AGCTGGAGGCCCGGGGCGACAGCACATACC		SYTIMVLFADQATPTSPIRVKV
				GCTGCAGCTACCAGCCCACCATGGAGGGCG		EPSHDASKVKAEGPGLSRTG
				TCCACACCGTGCACGTCACGTTTGCCGGCGT		VELGKPTHFTVNAKAAGKGKL
				GCCCATCCCTCGCAGCCCCTACACTGTCACT		DVQFSGLTKGDAVRDVDIIDH
				GTTGGCCAAGCCTGTAACCCGAGTGCCTGCC		HDNTYTVKYTPVQQGPVGVN
				GGGCGGTTGGCCGGGGCCTCCAGCCCAAGG		VTYGGDPIPKSPFSVAVSPSL
				GTGTGCGGGTGAAGGAGACAGCTGACTTCAA		DLSKIKVSGLGEKVDVGKDQE
				GGTGTACACAAAGGGCGCTGGCAGTGGGGA		FTVKSKGAGGQGKVASKIVGP
				GCTGAAGGTCACCGTGAAGGGCCCCAAGGG		SGAAVPCKVEPGLGADNSVV
				AGAGGAGCGCGTGAAGCAGAAGGACCTGGG		RFLPREEGPYEVEVTYDGVPV
				GGATGGCGTGTATGGCTTCGAGTATTACCCC		PGSPFPLEAVAPTKPSKVKAF
				ATGGTCCCTGGAACCTATATCGTCACCATCA		GPGLQGGSAGSPARFTIDTKG
				CGTGGGGTGGTCAGAACATCGGGCGCAGTC		AGTGGLGLTVEGPCEAQLECL
				CCTTCGAAGTGAAGGTGGGCACCGAGTGTG		DNGDGTCSVSYVPTEPGDYNI
				GCAATCAGAAGGTACGGGCCTGGGGCCCTG		NILFADTHIPGSPFKAHVVPCF
				GGCTGGAGGGCGGCGTCGTTGGCAAGTCAG		DASKVKCSGPGLERATAGEV
				CAGACTTTGTGGTGGAGGCTATCGGGGACG		GQFQVDCSSAGSAELTIEICSE
				ACGTGGGCACGCTGGGCTTCTCGGTGGAAG		AGLPAEVYIQDHGDGTHTITYI
				GGCCATCGCAGGCTAAGATCGAATGTGACGA		PLCPGAYTVTIKYGGQPVPNF

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				CAAGGGCGACGGCTCCTGTGATGTGCGCTA		PSKLQVEPAVDTSGVQCYGP
				CTGGCCGCAGGAGGCTGGCGAGTATGCCGT		GIEGQGVFREATTEFSVDARA
				TCACGTGCTGTGCAACAGCGAAGACATCCGC		LTQTGGPHVKARVANPSGNLT
				CTCAGCCCCTTCATGGCTGACATCCGTGACG		ETYVQDRGDGMYKVEYTPYE
				CGCCCCAGGACTTCCACCCAGACAGGGTGA		EGLHSVDVTYDGSPVPSSPFQ
				AGGCACGTGGGCCTGGATTGGAGAAGACAG		VPVTEGCDPSRVRVHGPGIQS
				GTGTGGCCGTCAACAAGCCAGCAGAGTTCAC		GTTNKPNKFTVETRGAGTGGL
				AGTGGATGCCAAGCACGGTGGCAAGGCCCC		GLAVEGPSEAKMSCMDNKDG
				ACTTCGGGTCCAAGTCCAGGACAATGAAGGC		SCSVEYIPYEAGTYSLNVTYG
				TGCCCTGTGGAGGCGTTGGTCAAGGACAAC		GHQVPGSPFKVPVHDVTDAS
				GGCAATGGCACTTACAGCTGCTCCTACGTGC		KVKCSGPGLSPGMVRANLPQ
				CCAGGAAGCCGGTGAAGCACACAGCCATGG		SFQVDTSKAGVAPLQVKVQG
				TGTCCTGGGGAGGCGTCAGCATCCCCAACA		PKGLVEPVDVVDNADGTQTV
				GCCCCTTCAGGGTGAATGTGGGAGCTGGCA		NYVPSREGPYSISVLYGDEEV
				GCCACCCCAACAAGGTCAAAGTATACGGCCC		PRSPFKVKVLPTHDASKVKAS
				CGGAGTAGCCAAGACAGGGCTCAAGGCCCA		GPGLNTTGVPASLPVEFTIDAK
				CGAGCCCACCTACTTCACTGTGGACTGCGCC		DAGEGLLAVQITDPEGKPKKT
				GAGGCTGGCCAGGGGGACGTCAGCATCGGC		HIQDNHDGTYTVAYVPDVTGR
				ATCAAGTGTGCCCCTGGAGTGGTAGGCCCC		YTILIKYGGDEIPFSPYRVRAV
				GCCGAAGCTGACATCGACTTCGACATCATCC		PTGDASKCTVTVSIGGHGLGA
				GCAATGACAATGACACCTTCACGGTCAAGTA		GIGPTIQIGEETVITVDTKAAGK
				CACGCCCCGGGGGGCTGGCAGCTACACCAT		GKVTCTVCTPDGSEVDVDVV
				TATGGTCCTCTTTGCTGACCAGGCCACGCCC		ENEDGTFDIFYTAPQPGKYVIC
				ACCAGCCCCATCCGAGTCAAGGTGGAGCCC		VRFGGEHVPNSPFQVTALAG
				TCTCATGACGCCAGTAAGGTGAAGGCCGAG		DQPSVQPPLRSQQLAPQYTY
				GGCCCTGGCCTCAGTCGCACTGGTGTCGAG		AQGGQQTWAPERPLVGVNGL
				CTTGGCAAGCCCACCCACTTCACAGTAAATG		DVTSLRPFDLVIPFTIKKGEITG
				CCAAAGCTGCTGGCAAAGGCAAGCTGGACG		EVRMPSGKVAQPTITDNKDGT
				TCCAGTTCTCAGGACTCACCAAGGGGGATGC		VTVRYAPSEAGLHEMDIRYDN
				AGTGCGAGATGTGGACATCATCGACCACCAT		MHIPGSPLQFYVDYVNCGHVT
				GACAACACCTACACAGTCAAGTACACGCCTG		AYGPGLTHGVVNKPATFTVNT
				TCCAGCAGGGTCCAGTAGGCGTCAATGTCAC		KDAGEGGLSLAIEGPSKAEISC
				TTATGGAGGGGATCCCATCCCTAAGAGCCCT		TDNQDGTCSVSYLPVLPGDYS
				TTCTCAGTGGCAGTATCTCCAAGCCTGGACC		ILVKYNEQHVPGSPFTARVTG
				TCAGCAAGATCAAGGTGTCTGGCCTGGGAGA		DDSMRMSHLKVGSAADIPINIS
				GAAGGTGGACGTTGGCAAAGACCAGGAGTT		ETDLSLLTATVVPPSGREEPC

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				CACAGTCAAATCAAAGGGTGCTGGTGGTCAA		LLKRLRNGHVGISFVPKETGE
				GGCAAAGTGGCATCCAAGATTGTGGGCCCCT		HLVHVKKNGQHVASSPIPVVIS
				CGGGTGCAGCGGTGCCCTGCAAGGTGGAGC		QSEIGDASRVRVSGQGLHEG
				CAGGCCTGGGGGCTGACAACAGTGTGGTGC		HTFEPAEFIIDTRDAGYGGLSL
				GCTTCCTGCCCCGTGAGGAAGGGCCCTATG		SIEGPSKVDINTEDLEDGTCRV
				AGGTGGAGGTGACCTATGACGGCGTGCCCG		TYCPTEPGNYIINIKFADQHVP
				TGCCTGGCAGCCCCTTTCCTCTGGAAGCTGT		GSPFSVKVTGEGRVKESITRR
				GGCCCCCACCAAGCCTAGCAAGGTGAAGGC		RRAPSVANVGSHCDLSLKIPEI
				GTTTGGGCCGGGGCTGCAGGGAGGCAGTGC		SIQDMTAQVTSPSGKTHEAEI
				GGGCTCCCCCGCCCGCTTCACCATCGACAC		VEGENHTYCIRFVPAEMGTHT
				CAAGGGCGCCGGCACAGGTGGCCTGGGCCT		VSVKYKGQHVPGSPFQFTVG
				GACGGTGGAGGGCCCCTGTGAGGCGCAGCT		PLGEGGAHKVRAGGPGLERA
				CGAGTGCTTGGACAATGGGGATGGCACATGT		EAGVPAEFSIWTREAGAGGLA
				TCCGTGTCCTACGTGCCCACCGAGCCCGGG		IAVEGPSKAEISFEDRKDGSC
				GACTACAACATCAACATCCTCTTCGCTGACAC		GVAYVVQEPGDYEVSVKFNE
				CCACATCCCTGGCTCCCCATTCAAGGCCCAC		EHIPDSPFVVPVASPSGDARR
				GTGGTTCCCTGCTTTGACGCATCCAAAGTCA		LTVSSLQESGLKVNQPASFAV
				AGTGCTCAGGCCCCGGGCTGGAGCGGGCCA		SLNGAKGAIDAKVHSPSGALE
				CCGCTGGGGAGGTGGGCCAATTCCAAGTGG		ECYVTEIDQDKYAVRFIPREN
				ACTGCTCGAGCGCGGGCAGCGCGGAGCTGA		GVYLIDVKFNGTHIPGSPFKIR
				CCATTGAGATCTGCTCGGAGGCGGGGCTTC		VGEPGHGGDPGLVSAYGAGL
				CGGCCGAGGTGTACATCCAGGACCACGGTG		EGGVTGNPAEFVVNTSNAGA
				ATGGCACGCACACCATTACCTACATTCCCCT		GALSVTIDGPSKVKMDCQECP
				CTGCCCCGGGGCCTACACCGTCACCATCAA		EGYRVTYTPMAPGSYLISIKYG
				GTACGGCGGCCAGCCCGTGCCCAACTTCCC		GPYHIGGSPFKAKVTGPRLVS
				CAGCAAGCTGCAGGTGGAACCTGCGGTGGA		NHSLHETSSVFVDSLTKATCA
				CACTTCCGGTGTCCAGTGCTATGGGCCTGGT		PQHGAPGPGPADASKVVAKG
				ATTGAGGGCCAGGGTGTCTTCCGTGAGGCC		LGLSKAYVGQKSSFTVDCSKA
				ACCACTGAGTTCAGTGTGGACGCCCGGGCT		GNNMLLVGVHGPRTPCEEILV
				CTGACACAGACCGGAGGGCCGCACGTCAAG		KHVGSRLYSVSYLLKDKGEYT
				GCCCGTGTGGCCAACCCCTCAGGCAACCTG		LVVKWGHEHIPGSPYRVVVP*
				ACGGAGACCTACGTTCAGGACCGTGGCGAT		
				GGCATGTACAAAGTGGAGTACACGCCTTACG		
				AGGAGGGACTGCACTCCGTGGACGTGACCT		
				ATGACGGCAGTCCCGTGCCCAGCAGCCCCT		
				TCCAGGTGCCCGTGACCGAGGGCTGCGACC		

				CCTCCCGGGTGCGTGTCCACGGGCCAGGCA TCCAAAGTGGCACCACCAACAAGCCCAACAA GTTCACTGTGGAGACCAGGGGAGCTGGCAC GGGCGGCCTGGGCCTGGCTGTAGAGGGCCC CTCCGAGGCCAAGATGTCCTGCATGGATAAC AAGGACGGCAGCTGCTCGGTCGAGTACATC CCTTATGAGGCTGGCACCTACAGCCTCAACG TCACCTATGGTGGCCATCAAGTGCCAGGCAG TCCTTTCAAGGTCCCTGTGCATGATGTGACA GATGCGTCCAAGGTCAAGTGCTCTGGGCCC GGCCTGAGCCCAGGCATGGTTCGTGCCAAC CTCCCTCAGTCCTTCCAGGTGGACACAAGCA AGGCTGGTGTGGCCCCATTGCAGGTCAAAGT GCAAGGGCCCAAAGGCCTGGTGGAGCCAGT GGACGTGGTAGACAACGCTGATGGCACCCA GACCGTCAATTATGTGCCCAGCCGAGAAGGG CCCTACAGCATCTCAGTACTGTATGGAGATG AAGAGGTACCCCGGAGCCCCTTCAAGGTCAA GGTGCTGCCTACTCATGATGCCAGCAAGGTG AAGGCCAGTGGCCCCGGGCTCAACACCACT GGCGTGCCTGCCAGCCTGCCCGTGGAGTTC ACCATCGATGCAAAGGACGCCGGGGAGGGC CTGCTGGCTGTCCAGATCACGGATCCCGAAG GCAAGCCGAAGAAGACACACATCCAAGACAA CCATGACGGCACGTATACAGTGGCCTACGTG CCAGACGTGACAGGTCGCTACACCATCCTCA TCAAGTACGGTGGTGACGAGATCCCCTTCTC CCCGTACCGCGTGCGTGCCGTGCCCACCGG GGACGCCAGCAAGTGCACTGTCACAGTGTCA ATCGGAGGTCACGGGCTAGGTGCTGGCATC GGCCCCACCATTCAGATTGGGGAGGAGACG GTGATCACTGTGGACACTAAGGCGGCAGGC AAAGGCAAAGTGACGTGCACCGTGTGCACG CCTGATGGCTCAGAGGTGGATGTGGACGTG GTGGAGAATGAGGACGGCACTTTCGACATCT TCTACACGGCCCCCCAGCCGGGCAAATACGT		

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				CATCTGTGTGCGCTTTGGTGGCGAGCACGTG CCCAACAGCCCCTTCCAAGTGACGGCTCTGG CTGGGGACCAGCCCTCGGTGCAGCCCCCTC TACGGTCTCAGCAGCTGGCCCCACAGTACAC CTACGCCCAGGGCGGCCAGCAGACTTGGGC CCCGGAGAGGCCCCTGGTGGGTGTCAATGG GCTGGATGTGACCAGCCTGAGGCCCTTTGAC CTTGTCATCCCCTTCACCATCAAGAAGGGCG AGATCACAGGGGAGGTTCGGATGCCCTCAG GCAAGGTGGCGCAGCCCACCATCACTGACA ACAAAGACGGCACCGTGACCGTGCGGTATG CACCCAGCGAGGCTGGCCTGCACGAGATGG ACATCCGCTATGACAACATGCACATCCCAGG AAGCCCCTTGCAGTTCTATGTGGATTACGTC AACTGTGGCCATGTCACTGCCTATGGGCCTG GCCTCACCCATGGAGTAGTGAACAAGCCTGC CACCTTCACCGTCAACACCAAGGATGCAGGA GAGGGGGGCCTGTCTCTGGCCATTGAGGGC CCGTCCAAAGCAGAAATCAGCTGCACTGACA ACCAGGATGGGACATGCAGCGTGTCCTACCT GCCTGTGCTGCCGGGGGACTACAGCATTCTA GTCAAGTACAATGAACAGCACGTCCCAGGCA GCCCCTTCACTGCTCGGGTCACAGGTGACGA CTCCATGCGTATGTCCCACCTAAAGGTCGGC TCTGCTGCCGACATCCCCATCAACATCTCAG AGACGGATCTCAGCCTGCTGACGGCCACTGT GGTCCCGCCCTCGGGCCGGGAGGAGCCCTG TTTGCTGAAGCGGCTGCGTAATGGCCACGTG GGGATTTCATTCGTGCCCAAGGAGACGGGG GAGCACCTGGTGCATGTGAAGAAAAATGGCC AGCACGTGGCCAGCAGCCCCATCCCGGTGG TGATCAGCCAGTCGGAAATTGGGGATGCCAG TCGTGTTCGGGTCTCTGGTCAGGGCCTTCAC GAAGGCCACACCTTTGAGCCTGCAGAGTTTA TCATTGATACCCGCGATGCAGGCTATGGTGG GCTCAGCCTGTCCATTGAGGGCCCCAGCAA		

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				GGTGGACATCAACACAGAGGACCTGGAGGA CGGGACGTGCAGGGTCACCTACTGCCCCAC AGAGCCAGGCAACTACATCATCAACATCAAG TTTGCCGACCAGCACGTGCCTGGCAGCCCCT TCTCTGTGAAGGTGACAGGCGAGGGCCGGG TGAAAGAGAGCATCACCCGCAGGCGTCGGG CTCCTTCAGTGGCCAACGTTGGTAGTCATTG TGACCTCAGCCTGAAAATCCCTGAAATTAGC ATCCAGGATATGACAGCCCAGGTGACCAGCC CATCGGGCAAGACCCATGAGGCCGAGATCG TGGAAGGGGAGAACCACACCTACTGCATCCG CTTTGTTCCCGCTGAGATGGGCACACACACA GTCAGCGTCAAGTACAAGGGCCAGCACGTG CCTGGGAGCCCCTTCCAGTTCACCGTGGGG CCCCTAGGGGAAGGGGGAGCCCACAAGGTC CGAGCTGGGGGCCCTGGCCTGGAGAGAGCT GAAGCTGGAGTGCCAGCCGAATTCAGTATCT GGACCCGGGAAGCTGGTGCTGGAGGCCTGG CCATTGCTGTCGAGGGCCCCAGCAAGGCTG AGATCTCTTTTGAGGACCGCAAGGACGGCTC CTGTGGTGTGGCTTATGTGGTCCAGGAGCCA GGTGACTACGAAGTCTCAGTCAAGTTCAACG AGGAACACATTCCCGACAGCCCCTTCGTGGT GCCTGTGGCTTCTCCGTCTGGCGACGCCCG CCGCCTCACTGTTTCTAGCCTTCAGGAGTCA GGGCTAAAGGTCAACCAGCCAGCCTCTTTTG CAGTCAGCCTGAACGGGGCCAAGGGGGCGA TCGATGCCAAGGTGCACAGCCCCTCAGGAG CCCTGGAGGAGTGCTATGTCACAGAAATTGA CCAAGATAAGTATGCTGTGCGCTTCATCCCT CGGGAGAATGGCGTTTACCTGATTGACGTCA AGTTCAACGGTACCCACATCCCTGGAAGCCC CTTCAAGATCCGAGTTGGGGAGCCTGGGCAT GGAGGGGACCCAGGCTTGGTGTCTGCTTAC GGAGCAGGTCTGGAAGGCGGTGTCACAGGG AACCCAGCTGAGTTCGTCGTGAACACGAGCA		

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				ATGCGGGAGCTGGTGCCCTGTCGGTGACCA TTGACGGCCCCTCCAAGGTGAAGATGGATTG CCAGGAGTGCCCTGAGGGCTACCGCGTCAC CTATACCCCCATGGCACCTGGCAGCTACCTC ATCTCCATCAAGTACGGCGGCCCCTACCACA TTGGGGGCAGCCCCTTCAAGGCCAAAGTCAC AGGCCCCCGTCTCGTCAGCAACCACAGCCTC CACGAGACATCATCAGTGTTTGTAGACTCTCT GACCAAGGCCACCTGTGCCCCCCAGCATGG GGCCCCGGGTCCTGGGCCTGCTGACGCCAG CAAGGTGGTGGCCAAGGGCCTGGGGCTGAG CAAGGCCTACGTAGGCCAGAAGAGCAGCTTC ACAGTAGACTGCAGCAAAGCAGGCAACAACA TGCTGCTGGTGGGGGTTCATGGCCCAAGGA CCCCCTGCGAGGAGATCCTGGTGAAGCACG TGGGCAGCCGGCTCTACAGCGTGTCCTACCT GCTCAAGGACAAGGGGGAGTACACACTGGT GGTCAAATGGGGGCACGAGCACATCCCAGG CAGCCCCTACCGCGTTGTGGTGCCCTGA		
Shigella ipaH9.8	6	prey56789	183	CCCCAACATCATCCAGTTTGTGCCAGCTGAT GGGCCCCTATTTGGGGACACTGTCACCAGCT CAGAGCACCTCTGTGGCATCAACTTCACAGG CAGTGTGCCCACCTTCAAACACCTGTGGAAG CAGGTGGCCCAGAACCTGGACCGGTTCCAC ACCTTCCCACGCCTGGCTGGAGAGTGCGGC GGAAAGAACTTCCACTTCGTGCACCGCTCGG CCGACGTGGAGAGCGTGGTGAGCGGGACCC TCCGCTCAGCCTTCGAGTACGGTGGCCAGAA GTGTTCCGCCTGCTCGCGTCTCTACGTGCCG CACTCGCTGTGGCCGCAGATCAAAGGGCGG CTGCTGGAGGAGCACAGTCGGATCAAAGTG GGCGACCCTGCAGAGGATTTTGGGACCTTCT TCTCTGCAGTGATTGATGCCAAGTCCTTTGC CCGTATCAAGAAGTGGCTGGAGCACGCGCG CTCCTCGCCCAGCCTCACCATCCTGGCTGGG	384	PNIIQFVPADGPLFGDTVTSSE HLCGINFTGSVPTFKHLWKQV AQNLDRFHTFPRLAGECGGK NFHFVHRSADVESVVSGTLRS AFEYGGQKCSACSRLYVPHSL WPQIKGRLLEEHSRIKVGDPA EDFGTFFSAVIDAKSFARIKKW LEHARSSPSLTILAGGKCDDS VGYFVEPCIVESKDPQEPIMK EEIFGPVLSVYVYPDDKYKETL QLVDSTTSYGLTGAVFSQDKD VVQEATKVLRNAAGNFYINDK STGSIVGQQPFGGARASGTN DKPGGPHYILRWTSPQVIKET HKPLGDWSYAYMQ*

				GGCAAGTGTGATGACTCCGTGGGCTACTTTG TGGAGCCCTGCATCGTGGAGAGCAAGGACC CTCAGGAGCCCATCATGAAGGAGGAGATCTT CGGGCCTGTACTGTCTGTGTACGTCTACCCG GACGACAAGTACAAGGAGACGCTGCAGCTG GTTGACAGCACCACCAGCTATGGCCTCACGG GGGCAGTGTTCTCCCAGGATAAGGACGTCGT GCAGGAGGCCACAAAGGTGCTGAGGAATGC TGCCGGCAACTTCTACATCAACGACAAGTCC ACTGGCTCGATAGTGGGCCAGCAGCCCTTTG GGGGGGCCCGAGCCTCTGGAACCAATGACA AGCCAGGGGGCCCACACTACATCCTGCGCT GGACGTCGCCGCAGGTCATCAAGGAGACAC ATAAGCCCCTGGGGGACTGGAGCTACGCGT ACATGCAGTGA		
Shigella ipaH9.8	6	prey67711	184	AACAGAGCTGCCTCCTGGCTCTTTGGGAGCC TGGGAGGAGAAGGAGCCGGGAGGGGCGCT GCGGGGAAGCCACCTGCGGATTCACTGGCT GCTGCTCCGCCCAGGACTGCTAGCAAGCAC GGAGGGCTGCCAGACCTGGGGCTCCCTGCT CCGTGCGTCAGGTTGGGGAAACCACCGTCT GCCCCAGACCCTGACCCAGGACCCGCCTGG AGGAAGCTGGG	385	NRAASWLFGSLGGEGAGRGA AGKPPADSLAAAPPRTASKHG GLPDLGLPAPCVRLGKPPSAP DPDPGPAWRKL
Shigella ipaH9.8	6	prey2118	185	ATGTCTCAGGCTGTGCAGACAAACGGAACTC AACCATTAAGCAAAACATGGGAACTCAGTTTA TATGAGTTACAACGAACACCTCAGGAGGCAA TAACAGATGGCTTAGAAATTGTGGTTTCACCT CGAAGTCTACACAGTGAATTAATGTGCCCAAT TTGTTTGGATATGTTGAAGAACACCATGACTA CAAAGGAGTGTTTACATCGTTTTTGTGCAGAC TGCATCATCACAGCCCTTAGAAGTGGCAACA AAGAATGTCCTACCTGTCGGAAAAAACTAGTT TCCAAAAGATCACTAAGGCCAGACCCAAACT TTGATGCACTCATCAGCAAAATTTATCCAAGT CGTGATGAGTATGAAGCTCATCAAGAGAGAG	386	MSQAVQTNGTQPLSKTWELS LYELQRTPQEAITDGLEIVVSP RSLHSELMCPICLDMLKNTMT TKECLHRFCADCIITALRSGNK ECPTCRKKLVSKRSLRPDPNF DALISKIYPSRDEYEAHQERVL ARINKHNNQQALSHSIEEGLKI QAMNRLQRGKKQQIENGSGA EDNGDSSHCSNASTHSNQEA GPSNKRTKTSDDSGLELDNN NAAMAIDPVMDGASEIELVFR PHPTLMEKDDSAQTRYIKTSG

				TATTAGCCAGGATCAACAAGCACAATAATCAG CAAGCACTCAGTCACAGCATTGAGGAAGGAC TGAAGATACAGGCCATGAACAGACTGCAGCG AGGCAAGAAACAACAGATTGAAAATGGTAGT GGAGCAGAAGATAATGGTGACAGTTCACACT GCAGTAATGCATCCACACATAGCAATCAGGA AGCAGGCCCTAGTAACAAACGGACCAAAACA TCTGATGATTCTGGGCTAGAGCTTGATAATAA CAATGCAGCAATGGCAATTGATCCAGTAATG GATGGTGCTAGTGAAATTGAATTAGTATTCAG GCCTCATCCCACACTTATGGAAAAAGATGAC AGTGCACAGACGAGATACATAAAGACTTCTG GTAACGCCACTGTTGATCACTTATCCAAGTAT CTGGCTGTGAGGTTAGCTTTAGAAGAACTTC GAAGCAAAGGTGAATCAAACCAGATGAACCT TGATACAGCCAGTGAGAAGCAGTATACCATT TATATAGCAACAGCCAGTGGCCAGTTCACTG TATTAAATGGCTCTTTTTCTTTGGAATTGGTC AGTGAGAAATACTGGAAAGTGAACAAACCCA TGGAACTTTATTACGCACCTACAAAGGAGCA CAAATGA		NATVDHLSKYLAVRLALEELR SKGESNQMNLDTASEKQYTIY IATASGQFTVLNGSFSLELVSE KYWKVNKPMELYYAPTKEHK*
Shigella ipaH9.8	6	prey3596	186	ATGTCCAAGCGGCACCGGTTGGACCTAGGG GAGGATTACCCCTCTGGCAAGAAGCGTGCG GGGACCGATGGGAAGGATCGAGATCGAGAC CGGGATCGTGAAGATCGGTCTAAAGATCGAG ACCGAGAACGTGATAGAGGAGATAGAGAGC GAGAGAGGGAGAAAGAAAAGGAGAAGGAGT TGCGAGCTTCAACAAATGCTATGCTTATCAGT GCTGGATTACCACCCCTGAAAGCTTCCCATT CAGCTCACTCAACCCACTCAGCACATTCAAC GCATTCTACACATTCTGCTCATTCAACGCATG CCGGACATGCAGGTCACACGTCACTTCCACA GTGCATTAATCCGTTCACCAACTTACCCCATA CTCCTCGATACTATGATATTCTAAAGAAACGT CTTCAGCTCCCTGTTTGGGAATACAAGGATA	387	MSKRHRLDLGEDYPSGKKRA GTDGKDRDRDRDREDRSKDR DRERDRGDRERE REKEKEKE LRASTNAMLISAGLPPLKASHS AHSTHSAHSTHSTHSAHSTHA GHAGHTSLPQCINPFTNLPHT PRYYDILKKRLQLPVWEYKDR FTDILGRHQSFVLVGETGSGK TTQIPHRCVEYMRSLPGPKRG VACTQPRRVAAMSVAQRVAD EMDVMLGQEVGYSIRFEDCS SAKTFFMYMTDGMLLREAMN DPLLERYGVIILDEAHERTLAT DILMGVLKEVVRQRSDLKVIV

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				GGTTTACAGATATTCTGGGTAGACATCAGTC CTTTGTACTGGTTGGTGAGACTGGGTCTGGT AAAACAACACAAATTCCACACCGGTGTGTGG AGTACATGCGATCATTACCAGGACCCAAGAG AGGAGTTGCCTGTACCCAACCCAGGAGAGTG GCTGCAATGAGTGTGGCTCAGAGAGTTGCTG ATGAGATGGATGTGATGTTGGGCCAGGAAGT TGGTTACTCCATTCGATTTGAAGACTGCAGTA GTGCAAAAACATTTTTTATGTATATGACTGAT GGGATGTTACTTCGTGAAGCTATGAATGATC CCCTCCTGGAGCGTTATGGTGTAATAATTCTT GATGAGGCTCATGAGAGGACACTGGCTACAG ATATTCTAATGGGTGTTCTGAAGGAAGTTGTA AGACAGAGATCAGATTTAAAGGTTATAGTTAT GAGCGCTACTCTAGATGCAGG		MSATLDA
Shigella ipaH9.8	6	prey666	187	CATCACATCCCGGTTGGAATCTGTGCACATC ATACTGAGAGATGGCCTGGAAGATCCCCTGG AGGATACGGGGCTGGTCCAGCAGCAGTTGG ACCAGCTGTCCACCATTGGGCGTTGTGAATA TGAGAAGACGTGTGCACTCCTCGTGCAGTTG TTTGACCAGTCGGCCCAGTCGTACCAGGAGC TGCTACAGAGCGCCAGCGCAAGCCCAATGG ACATTGCAGTGCAGGAGGGAAGGCTGACAT GGCTGGTTTACATTATTGGAGCAGTGATCGG TGGCCGGGTTTCTTTTGCCAGCACTGATGAG CAAGACGCCATGGATGGTGAGCTTGTCTGTC GGGTGCTCCAGCTGATGAACCTAACAGATTC TCGTTTGGCCCAGGCGGGTAATGAGAAGCTA GAGTTGGCCATGCTGAGCTTTTTTGAACAGTT TCGTAAGATCTACATTGGGGACCAAGTGCAG AAATCCTCTAAGCTGTACCGCCGAC	388	ITSRLESVHIILRDGLEDPLEDT GLVQQQLDQLSTIGRCEYEKT CALLVQLFDQSAQSYQELLQS ASASPMDIAVQEGRLTWLVYII GAVIGGRVSFASTDEQDAMD GELVCRVLQLMNLTDSRLAQA GNEKLELAMLSFFEQFRKIYIG DQVQKSSKLYRR
Shigella ospG	7	prey3917	188	GATGACCACGCTATACACCGCCAAGAAGTAC GCGGTGCCAGCGCTCGAGGCCCATTGCGTG GAGTTCCTGAAGAAGAACCTGCGAGCCGACA ACGCCTTCATGCTGCTCACGCAGGCGCGACT	389	MTTLYTAKKYAVPALEAHCVE FLKKNLRADNAFMLLTQARLF DEPQLASLCLENIDKNTADAIT AEGFTDIDLDTLVAVLERDTLG

				CTTCGATGAACCGCAGCTGGCCAGCCTGTGC CTGGAGAACATCGACAAAAACACTGCAGACG CCATCACCGCGGAGGGCTTCACCGACATTGA CCTGGACACGCTGGTGGCTGTCCTGGAGCG CGACACACTGGGCATCCGTGAGGTGCGGCT GTTCAATGCCGTTGTCCGCTGGTCCGAGGCC GAGTGTCAGCGGCAGCAGCTGCAGGTGACG CCAGAGAACAGGCGGAAGGTTCTGGGCAAG GCCCTGGGCCTCATTCGCTTCCCGCTCATGA CCATCGAGGAGTTCGCTGCAGGTCCCGCAC AGTCGGGCATCCTGGTGGACCGCGAGGTGG TCAGCCTCTTCCTGCACTTCACCGTCAACCC CAAGCCACGAGTGGAGTTCATTGACCGGCCC CGCTGCTGCCTGCGTGGGAAGGAGTGCAGC ATCAACCGCTTCCAGCAGGTGGAGAGTCGCT GGGGCTACAGCGGGACCAGTGACCGCATCA GGTTCTCAGTCAACAAGCGCATCTTCGTGGT GGGATTTGGGCTGTATGGATCCATCCACGGG CCCACCGACTACCAAGTGAACATCCAGATTA TTCACACCGATAGCAACACCGTCTTGGGCCA GAACGACACGGGCTTCAGCTGCGACGGCTC AGCCAGCACCTTCCGCGTCATGTTCAAGGAG CCGGTGGAGGTGCTGCCCAACGTCAACTACA CGGCCTGTGCCACGCTCAAGGGCCCAGACT CCCACTACGGCACCAAAGGCCTGCGCAAGG TGACACACGAGTCGCCCACCACGGGCGCCA AGACCTGCTTCACCTTTTGCTACGCGGCCGG GAACAACAATGGCACATCCGTGGAGGACGG CCAGATCCCCGAGGTCATCTTCTACACCTAG		IREVRLFNAVVRWSEAECQRQ QLQVTPENRRKVLGKALGLIR FPLMTIEEFAAGPAQSGILVDR EVVSLFLHFTVNPKPRVEFIDR PRCCLRGKECSINRFQQVESR WGYSGTSDRIRFSVNKRIFVV GFGLYGSIHGPTDYQVNIQIIH TDSNTVLGQNDTGFSCDGSA STFRVMFKEPVEVLPNVNYTA CATLKGPDSHYGTKGLRKVTH ESPTTGAKTCFTFCYAAGNNN GTSVEDGQIPEVIFYT*
Shigella ospG	7	prey63632	189	CTGTGGGAAAGCCTTCAGTTGGAAATCACAC CTTATTGAGCATCAAAGAACTCACACTGGTGA GAAACCTTATCACTGTACCAAATGTAAGAAGA GCTTTAGTCGAAATTCATTGCTTGTTGAGCAT CAAAGAATTCACACTGGGGAAAGACCCCATA AATGTGGTGAATGTGGGAAAGCCTTTCGATT	390	CGKAFSWKSHLIEHQRTHTGE KPYHCTKCKKSFSRNSLLVEH QRIHTGERPHKCGECGKAFRL STYLIQHQKIHTGEKPFLCIEC GKSFSRSSFLIEHQRIHTGERP YQCKECGKSFSQLCNLTRHQ

				AAGCACATACCTTATACAACACCAAAAAATTC ACACTGGCGAGAAGCCTTTTCTTTGTATTGAG TGTGGAAAAAGTTTCAGTCGGAGCTCATTCC TTATTGAACATCAGAGGATCCATACTGGTGAA AGACCTTATCAGTGCAAAGAGTGTGGGAAAA GTTTCAGTCAGCTTTGCAACCTTACTCGTCAT CAGAGAATTCACACAGGAGACAAGCCCCATA AATGTGAGGAATGTGGAAAAGCCTTTAGTAG AAGCTCAGGTCTTATTCAGCATCAGAGAATTC ACACCAGGGAGAAGACTTATCCATACAATGA AACTAAGGAAAGTTTTGATCCAAATTGCAGTC TTGTTATACAGCAGGAAGTCTACCCTAAGGA GAAATCTTATAAATGTGATGAATGTGGGAAAA CTTTTAGTGTTAGTGCTCATCTTGTACAACAT CAAAGAATCCACACTGGTGAAAAGCCCTATC TATGTACTGTCTGTGGGAAGAGCTTCAGCCG GAGCTCATTTCTTATTGAACATCAGAGAATCC ACACTGGAGAGAGACCCTATCTGTGCAGACA GTGTGGAAAAAGCTTTAGTCAGCTTTGTAATC TTATTCGACATCAGGGTGTTCACACAGGTAAT AAACCCCATAAATGTGATGAATGTGGAAAGG CCTTTAGCCGGAACTCGGGTCTTATTCAGCA TCAGAGAATACACACAGGAGAGAAACCTTAT AAGTGTGAGAAGTGCGACAAAAGTTTCAGTC AACAGCGCAGTCTTGTCAACCATCAGATGAT CCATGCAGAGGTGAAAACCCAAGAAACCCAT GAATGTGATGCTTGTGGTGAAGCCTTTAATTG CCGTATTTCTCTTATTCAGCATCAGAAATTGC ACACAGCATGGATGCAATAA		RIHTGDKPHKCEECGKAFSRS SGLIQHQRIHTREKTYPYNETK ESFDPNCSLVIQQEVYPKEKS YKCDECGKTFSVSAHLVQHQ RIHTGEKPYLCTVCGKSFSRS SFLIEHQRIHTGERPYLCRQC GKSFSQLCNLIRHQGVHTGNK PHKCDECGKAFSRNSGLIQHQ RIHTGEKPYKCEKCDKSFSQQ RSLVNHQMIHAEVKTQETHEC DACGEAFNCRISLIQHQKLHTA WMQ*
Shigella ospG	7	prey2109	190	GACTAAGGATCACCATTACTTTAAGTACTGCA AAATCTCAGCATTGGCTCTTCTGAAGATGGT GATGCATGCCAGATCGGGAGGCAATTTGGAA GTGATGGGTCTGATGCTAGGAAAGGTGGATG GTGAAACCATGATCATTATGGACAGTTTTGCT TTGCCTGTGGAGGGCACTGAAACCCGAGTAA	391	TKDHHYFKYCKISALALLKMV MHARSGGNLEVMGLMLGKVD GETMIIMDSFALPVEGTETRVN AQAAAYEYMAAYIENAKQVGR LENAIGWYHSHPGYGCWLSGI DVSTQMLNQQFQEPFVAVVID

				ATGCTCAGGCTGCTGCATATGAATACATGGC TGCATACATAGAAAATGCAAAACAGGTTGGC CGCCTTGAAAATGCAATCGGGTGGTATCATA GCCACCCTGGCTATGGCTGCTGGCTTTCTGG GATTGATGTTAGTACTCAGATGCTCAATCAGC AGTTCCAGGAACCATTTGTAGCAGTGGTGAT TGATCCAACAAGAACAATATCCGCAGGGAAA GTGAATCTTGGCGCCTTTAGGACATACCCAA AGGGCTACAAACCTCCTGATGAAGGACCTTC TGAGTACCAGACTATTCCACTTAATAAAATAG AAGATTTTGGTGTACACTGCAAACAATATTAT GCCTTAGAAGTCTCATATTTCAAATCCTCTTT GGATCGCAAATTGCTTGAGCT		PTRTISAGKVNLGAFRTYPKG YKPPDEGPSEYQTIPLNKIEDF GVHCKQYYALEVSYFKSSLDR KLLE
Shigella ospG	7	prey54201	191	ACGGATTAATAAGGAACTTAGTGATTTGGCC CGTGACCCTCCAGCACAATGTTCTGCAGGTC CAGTTGGGGATGATATGTTTCATTGGCAAGC CACAATTATGGGACCTAATGACAGCCCATAT CAAGGCGGTGTATTCTTTTTGACAATTCATTT TCCTACAGACTACCCCTTCAAACCACCTAAG GTTGCATTTACAACAAGAATTTATCATCCAAA TATTAACAGTAATGGCAGCATTTGTCTCGATA TTCTAAGATCACAGTGGTCGCCTGCTTTAACA ATTTCTAAAGTTCTTTTATCCATTTGTTCACTG CTATGTGATCCAAACCCAGATGACCCCCTAG TGCCAGAGATTGCACGGATCTATAAAACAGA CAGAGATAAGTACAACAGAATATCTCGGGAA TGGACTCAGAAGTATGCCATGTGA	392	RINKELSDLARDPPAQCSAGP VGDDMFHWQATIMGPNDSPY QGGVFFLTIHFPTDYPFKPPKV AFTTRIYHPNINSNGSICLDILR SQWSPALTISKVLLSICSLLCD PNPDDPLVPEIARIYKTDRDKY NRISREWTQKYAM*
Shigella ospG	7	prey1922	192	AACTGGTGCTGCTCCTGCTAAGGCCAAGCCG GCTGAAGCTCCTGCTGCTGCAGCCCCAAAAG CAGAACCTACAGCAGCGGCAGTTCCTCCCCC TGCAGCACCCATACCCACTCAGATGCCACCG GTGCCCTCGCCCTCACAGCCTCCTTCTGGCA AACCTGTGTCTGCAGTAAAACCCACTGTTGC CCCACCACTAGCTGAGCCAGGAGCTGGCAA AGGTCTGCGTTCAGAACATCGGGAGAAAATG	393	TGAAPAKAKPAEAPAAAAPKA EPTAAAVPPPAAPIPTQMPPV PSPSQPPSGKPVSAVKPTVAP PLAEPGAGKGLRSEHREKMN RMRQRIAQRLKEAQNTCAMLT TFNEIDMSNIQEMRARHKEAF LKKHNLKLGFMSAFVKASAFA LQEQPVVNAVIDDTTKEVVYR

				AACAGGATGCGGCAGCGCATTGCTCAGCGT CTGAAGGAGGCCCAGAATACATGTGCAATGC TGACAACTTTTAATGAGATTGACATGAGTAAC ATCCAGGAGATGAGGGCTCGGCACAAAGAG GCTTTTTTGAAGAAACATAACCTCAAACTAGG CTTCATGTCGGCATTTGTGAAGGCCTCAGCC TTTGCCTTGCAGGAACAGCCTGTTGTAAATG CAGTGATTGACGACACAACCAAAGAGGTGGT GTATAGGGATTATATTGACATCAGTGTTGCAG TGGCCACCCCACGGGGTCTGGTGGTTCCAG TCATCAGGAATGTGGAAGCTATGAATTTTGCA GATATTGAACGGACCATCACTGAACTGGGAG AGAAGGCCCGAAAGAATGAACTTGCCATTGA AGATATGGATGGCGGTACCTTCACCATTAGC AATGGAGGCGTTTTTGGCTCGCTCTTTGGAA CACCCATTATCAACCCCCCTCAGTCTGCCAT CCTGGGGATGCATGGCATCTTTGACAGGCCA GTGGCTATAGGAGGCAAGGTAGAGGTGCGG CCCATGATGTACGTGGCACTGACCTATGATC ACCGGCTGATTGATGGCAGAGAGGCTGTGA CTTTCCTCCGCAAAATCAAGGCAGCGGTAGA GGATCCCAGAGTCCTCCTCCTGGATCTTTAG		DYIDISVAVATPRGLVVPVIRN VEAMNFADIERTITELGEKARK NELAIEDMDGGTFTISNGGVF GSLFGTPIINPPQSAILGMHGIF DRPVAIGGKVEVRPMMYVALT YDHRLIDGREAVTFLRKIKAAV EDPRVLLLDL*
Shigella ospG	7	prey67418	193	GGCGGCCAGCAGGAGGCTGATGAAGGAGCT TGAAGAAATCCGCAAATGTGGGATGAAAAAC TTCCGTAACATCCAGGTTGATGAAGCTAATTT ATTGACTTGGCAAGGGCTTATTGTTCCTGACA ACCCTCCATATGATAAGGGAGCCTTCAGAAT CGAAATCAACTTTCCAGCAGAGTACCCATTCA AACCACCGAAGATCACATTTAAAACAAAGATC TATCACCCAAACATCGACGAAAAGGGGCAGG TCTGTCTGCCAGTAATTAGTGCCGAAAACTG GAAGCCAGCAACCAAAACCGACCAAGTAATC CAGTCCCTCATAGCACTGGTGAATGACCCCC AGCCTGAGCACCCGCTTCGGGCTGACCTAG CTGAAGAATACTCTAAGGACCGTAAAAAATTC	394	AASRRLMKELEEIRKCGMKNF RNIQVDEANLLTWQGLIVPDN PPYDKGAFRIEINFPAEYPFKP PKITFKTKIYHPNIDEKGQVCL PVISAENWKPATKTDQVIQSLI ALVNDPQPEHPLRADLAEEYS KDRKKFCKNAEEFTKKYGEKR PVD*

				TGTAAGAATGCTGAAGAGTTTACAAAGAAATA TGGGGAAAAGCGACCTGTGGACTAA		
Shigella ospG	7	prey67314	194	ATGATGGCGAGCATGCGAGTGGTGAAGGAG CTGGAGGATCTTCAGAAGAAGCCTCCCCCAT ACCTGCGGAACCTGTCCAGCGATGATGCCAA TGTCCTGGTGTGGCACGCTCTCCTCCTACCC GACCAACCTCCCTACCACCTGAAAGCCTTCA ACCTGCGCATCAGCTTCCCGCCGGAGTATCC GTTCAAGCCTCCCATGATCAAATTCACAACCA AGATCTACCACCCCAACGTGGACGAGAACGG ACAGATTTGCCTGCCCATCATCAGCAGTGAG AACTGGAAGCCTTGCACCAAGACTTGCCAAG TCCTGGAGGCCCTCAATGTGCTGGTGAATAG ACCGAATATCAGGGAGCCCCTGCGGATGGA CCTCGCTGACCTGCTGACACAGAATCCGGAG CTGTTCAGAAAGAATGCCGAAGAGTTCACCC TCCGATTCGGAGTGGACCGGCCCTCCTAA	395	MMASMRVVKELEDLQKKPPP YLRNLSSDDANVLVWHALLLP DQPPYHLKAFNLRISFPPEYPF KPPMIKFTTKIYHPNVDENGQI CLPIISSENWKPCTKTCQVLEA LNVLVNRPNIREPLRMDLADLL TQNPELFRKNAEEFTLRFGVD RPS*
Shigella ospG	7	prey67435	195	ATGTCAGTTGGGCACAAGGCCCAGGAGAGC AAGATTCGATACAAAACCAATGAACCTGTGTG GGAGGAAAACTTCACTTTCTTCATTCACAATC CCAAGCGCCAGGACCTTGAAGTTGAGGTCAG AGACGAGCAGCACCAGTGTTCCCTGGGGAA CCTGAAGGTCCCCCTCAGCCAGCTGCTCACC AGTGAGGACATGACTGTGAGCCAGCGCTTCC AGCTCAGTAACTCGGGTCCAAACAGCACCAT CAAGATGAAGATTGCCCTGCGGGTGCTCCAT CTCGAAAAGCGAGAAAGGCCTCCAGACC	396	MSVGHKAQESKIRYKTNEPV WEENFTFFIHNPKRQDLEVEV RDEQHQCSLGNLKVPLSQLLT SEDMTVSQRFQLSNSGPNSTI KMKIALRVLHLEKRERPPD
Shigella ospG	7	prey67443	196	CTGGGATGCCCTCAAGGCTGCCGCCTATGCT GCTGAAGCCAACGACCACGAGCTGGCCCAG GCCATCCTGGATGGAGCCAGCATCACCCTGC CTCATGGCACCCTCTGTGAATGCTACGATGA GCTGGGCAATCGCTACCAGCTGCCCATCTAC TGCCTGTCACCGCCGGTGAACCTGCTGCTG GAGCACACGGAGGAGGAGAGCCTGGAGCCC CCCGAGCCTCCACCCAGCGTGCGCCGTGAG	397	WDALKAAAYAAEANDHELAQ AILDGASITLPHGTLCECYDEL GNRYQLPIYCLSPPVNLLLEHT EEESLEPPEPPPSVRREFPLK VRLSTGKDVRLSASLPDTVGQ LKRQLHAQEGIEPSWQRWFF SGKLLTDRTRLQETKIQKDFVI QVIIN

				TTCCCGCTGAAGGTGCGCCTGTCCACGGGC AAGGACGTGAGGCTCAGCGCCAGCCTGCCC GACACAGTGGGGCAGCTCAAGAGGCAGCTG CACGCCCAGGAGGGCATCGAGCCATCGTGG CAGCGGTGGTTCTTCTCCGGGAAGCTGCTCA CAGACCGCACACGGCTCCAGGAGACCAAGA TCCAGAAAGATTTTGTCATCCAGGTCATCATC AAC		
Shigella ospG	7	prey67317	197	CGTCTGTGCCGTCTGCCGCAAGAAGTTCGTC AGCTCCATCAGGCTGCGCACCCACATCAAAG AGGTGCACGGGGCTGCCCAGGAGGCCTTGG TCTTCACCAGTTCCATCAACCAGAGCTTCTGC CTCCTGGAACCTGGTGGGGACATCCAGCAA GAAGCTCTGGGGGACCAGCTACAGCTGGTG GAAGAGGAGTTTGCCCTCCAGGGCGTGA	398	SVPSAARSSSAPSGCAPTSKR CTGLPRRPWSSPVPSTRASA SWNLVGTSSKKLWGTSYSW WKRSLPSRA*
Shigella ospG	7	prey67393	198	GAGAATCCACAAGGAATTGAATGATCTGGCA CGGGACCCTCCAGCACAGTGTTCAGCAGGT CCTGTTGGAGATGATATGTTCCATTGGCAAG CTACAATAATGGGGCCAAATGACAGTCCCTA TCAGGGTGGAGTATTTTTCTTGACAATTCATT TCCCAACAGATTACCCCTTCAAACCACCTAAG GTTGCATTTACAACAAGAATTTATCATCCAAA TATTAACAGTAATGGCAGCATTTGTCTTGATA TTCTACGATCACAGTGGTCTCCAGCACTAACT ATTTCAAAAGTACTCTTGTCCATCTGTTCTCT GTTGTGTGATCCCAATCCAGATGATCCTTTAG TGCCTGAGATTGCTCGGATCTACAAAACAGA TAGAGAAAAGTACAACAGAATAGCTCGGGAA TGGACTCAGAAGTATGCGATGTAA	399	RIHKELNDLARDPPAQCSAGP VGDDMFHWQATIMGPNDSPY QGGVFFLTIHFPTDYPFKPPKV AFTTRIYHPNINSNGSICLDILR SQWSPALTISKVLLSICSLLCD PNPDDPLVPEIARIYKTDREKY NRIAREWTQKYAM*
Shigella ospG	7	prey700	199	ATGGGAATTGGTCTTTCTGCTCAAGGTGTGA ACATGAATAGACTACCAGGTTGGGATAAGCA TTCATATGGTTACCATGGGGATGATGGACATT CGTTTTGTTCTTCTGGAACTGGACAACCTTAT GGACCAACTTTCACTACTGGTGATGTCATTG GCTGTTGTGTTAATCTTATCAACAATACCTGC	400	MGIGLSAQGVNMNRLPGWDK HSYGYHGDDGHSFCSSGTGQ PYGPTFTTGDVIGCCVNLINNT CFYTKNGHSLGIAFTDLPPNLY PTVGLQTPGEVVDANFGQHP FVFDIEDYMREWRTKIQAQID

				TTTTACACCAAGAATGGACATAGTTTAGGTAT TGCTTTCACTGACCTACCGCCAAATTTGTATC CTACTGTGGGGCTTCAAACACCAGGAGAAGT GGTCGATGCCAATTTTGGGCAACATCCTTTC GTGTTTGATATAGAAGACTATATGCGGGAGT GGAGAACCAAAATCCAGGCACAGATAGATCG ATTTCCTATCGGAGATCGAGAAGGAGAATGG CAGACCATGATACAAAAAATGGTTTCATCTTA TTTAGTCCACCATGGGTACTGTGCCACAGCA GAGGCCTTTGCCAGATCTACAGACCAGACCG TTCTAGAAGAATTAGCTTCCATTAAGAATAGA CAAAGAATTCAGAAATTGGTATTAGCAGGAA GAATGGGAGAAGCCATTGAAACAACACAAC		RFPIGDREGEWQTMIQKMVS SYLVHHGYCATAEAFARSTDQ TVLEELASIKNRQRIQKLVLAG RMGEAIETTQ
Shigella ospG	7	prey67411	200	GCCTGAAGAACAAGAGGAAAGAAAACCTTCT GCCACCCAGCAGAAGAAAAACACCAAACTCT CTAGCAAAACCACTGCTAAGTTATCCACTAGT GCTAAAAGAATTCAGAAGGAGCTAGCTGAAA TAACCCTTGATCCTCCTCCTAATTGCAGTGCT GGGCCTAAAGGAGATAACATTTATGAATGGA GATCAACTATACTTGGTCCACCGGGTTCTGT ATATGAAGGTGGTGTGTTTTTTCTGGATATCA CATTTTCATCAGATTATCCATTTAAGCCACCA AAGGTTACTTTCCGCACCAGAATCTATCACTG CAACATCAACAGTCAGGGAGTCATCTGTCTG GACATCCTTAAAGACAACTGGAGTCCCGCTT TGACTATTTCAAAGGTTTTGCTGTCTATTTGTT CCCTTTTGACAGACTGCAACCCTGCGGATCC TCTGGTTGGAAGCATAGCCACTCAGTATTTG ACCAACAGAGCAGAACACGACAGGATAGCCA GACAGTGGACCAAGAGATACGCAACATAA	401	PEEQEERKPSATQQKKNTKLS SKTTAKLSTSAKRIQKELAEITL DPPPNCSAGPKGDNIYEWRS TILGPPGSVYEGGVFFLDITFS SDYPFKPPKVTFRTRIYHCNIN SQGVICLDILKDNWSPALTISK VLLSICSLLTDCNPADPLVGSI ATQYLTNRAEHDRIARQWTKR YAT*
Shigella ospG	7	prey67423	201	ATGAGTTCTCAACAGTTTCCTCGGTTAGGAG CCCCTTCTACCGGGCTGAGCCAGGCCCCTTC TCAGATTGCAAACAGTGGTTCTGCTGGATTG ATAAACCCAGCTGCTACAGTCAATGATGAATC TGGTCGAGATTCTGAAGTCAGTGCCAGGGAG	402	MSSQQFPRLGAPSTGLSQAP SQIANSGSAGLINPAATVNDES GRDSEVSAREHMSSSSSLQS REEKQEPVVVRPYPQVQMLS THHAVASATPVAVTAPPAHLT

				CACATGAGTTCCAGCAGCTCCCTCCAGTCCC GGGAGGAGAAGCAAGAGCCTGTTGTGGTAA GGCCCTATCCACAGGTGCAGATGTTGTCGAC ACACCATGCTGTCGCATCAGCCACACCTGTT GCAGTGACAGCCCCGCCAGCACACCTGACG CCAGCAGTGCCACTTTCATTTTCGGAGGGAC TTATGAAGCCGCCCCCGAAGCCCACCATGCC TAGCCGTCCCATTGCTCCTGCTCCACCTTCT ACCCTGTCACTTCCCCCCAAGGTTCCAGGGC AGGTTACCGTTACCATGGAGAGTAGCATCCC TCAAGCTTCAGCCATTCCTGTGGCAACAATC AGTGGACAACAGGGCCATCCCAGTAACCTGC ATCACATCATGACTACAAATGTGCAAATGTCT ATCATCCGCAGCAATGCTCCTGGGCCCCCTC TTCACATTGGAGCTTCTCATTTACCTCGAGGT GCAGCTGCTGCTGCTGTGATGTCCAGTTCTA AAGTAACCACAGTCCTGAGGCCGACCTCACA GCTGCCAAATGCTGCTACTGCTCAGCCAGCA GTACAGCACATCATTCACC		PAVPLSFSEGLMKPPPKPTMP SRPIAPAPPSTLSLPPKVPGQV TVTMESSIPQASAIPVATISGQ QGHPSNLHHIMTTNVQMSIIRS NAPGPPLHIGASHLPRGAAAA AVMSSSKVTTVLRPTSQLPNA ATAQPAVQHIIH
Shigella ospG	7	prey67298	202	GATATTCTAGGTGTTAGGGTGCTGCAATCCC CTGGAACTGTATTAGTTGATTTTATTTCATGA GTGTGCATAAAACACCTTCTATCTATGGGACT GGCATGGGGCTTGGTGCTTANAACATATAGA TGAACAAGATCTTTGCTAGCAAGGAGCTGAG AGCTTAGTGAAGAAAGAGTGAAAAGTCCACA GTGAGAACATGGAGGNGCACATACCTGGGC TGCAGGCACACTGCCTNTGCCTGATCCAGTC CTGACACTGAAAAATGTGNNCATGATANGAA GANGGGGG	403	DILGVRVLQSPGTVLVDFIS*V CIKHLLSMGLAWGLVLXTYR*T RSLLARS*ELSEERVKSPQ*EH GGAHTWAAGTLPXPDPVLTLK NVXMIXRXG
Shigella ospG	7	prey67464	203	NTTGNTGGGTGNGNTNGGGGTGATAAGGAA AGAGTGTGAGAAAATGGCATCAAACAGGGAA CAAGTAAGAGGTCTGGTGGCAAGCGGACAA GAGATGAGTCCGTCAACCCCCACAACTGAGA CTTGAGAGGGATGAGTGGGTCCTGAGAACTC AGGCAAAGCTGAGTAGGTGGCCCCACTATCA	404	XXGXXXGDKERV*ENGIKQGT SKRSGGKRTRDESVNPHN*DL RGMSGS*ELRQS*VGGPTIN*K RDQLTCYXXSYPGLRCXDGS GGRXPXPXGPGLXXXE

				ATTAAAAAAGAGATCAGCTTACCTGCTACTAN TANAGTTACCCTGGGCTCCGATGCANTGATG GCAGTGGGGGCCGGNAGCCGGNGCCCANG GGCCCTGGCCTNATNANTNTTGAG		
Shigella ospG	7	prey67320	204	TCAGTGCCTGCTAGATACTTTGACAAGTTGG CTAGAACAGCGTTGTTCAGATGGAGCATAGA ACATCGAGATTACTTTTCTTCACCATGGCAAT TGAGTACTGATCTTTGTCTTCCATCTCTTAAG TACATTTACTTCTGAACTATGTATGCTATATAA TTCATATCTGTGATAGTAGTGGGTGACTTGAT AGATATTATCTGGCTATGTGTACTTCCATGTT AGCAAGTGATTTATGTGTCAAAGTTTCTACCC AGTGGGAATTAGGTCAGTTTAATTTTG	405	SVPARYFDKLARTALFRWSIE HRDYFSSPWQLSTDLCLPSLK YIYF*TMYAI*FISVIVVGDLIDII WLCVLPC*QVIYVSKFLPSGN* VSLIL
Shigella ospG	7	prey67321	205	GTGTTGAGTATNCTCAGANNTNACGTTGCAA TTGAAGNNCTGGNTCAGGAACCCTGAAAAGA TGTTNCCAGCTANNGATNAAGCAAGNCCGCT GGTGGGNGTCCCTTNTACCATNTNGGGGCTT TTGNNNNNTTNCTATCAANGCGTGCTTTTCTT TTCCAACTACANANGCACATGGAAGTGGTCA CTATCCGCTCTCTCCAGTATTATANCCATCAG AATNNCTTCTTGCAGGANNNACTGGTTGTGN NGANGCNTNTGTGGGANTTAGACANNGCNG AGNNGGTNTNCGGGGGTTNNT	406	VLSXLRXXVAIEXLXQEP*KDV XSXXXSKXAGGXPXYHXGAF XXXLSXRAFLFQLXXHMEVVTI RSLQYYXHQNXFLQXXLVVXX XXWXLDXAEXVXGGX
Shigella ospG	7	prey35777	206	ATGGGGCCCCTCTCAGCCCCTCCCTGCACA GAGCACATCAAATGGAAGGGGCTCCTGGTCA CAGCATCACTTTTAAACTTCTGGAACCTGCCC ACCACTGCCCAAGTCACGATTGAAGCCCAGC CACCAAAAGTTTCCGAGGGGAAGGATGTTCT TCTACTTGTCCACAATTTGCCCCAGAATCTTA CTGGCTACATCTGGTACAAAGGGCAAATCAG GGACCTCTACCATTACATTACATCATATGTAG TAGACGGTCAAATAATTATATATGGGCCTGCA TATAGTGGACGAGAAACAGCATATTCCAATG CATCCCTGCTGATCCAGAATGTCACCCGGGA GGACGCAGGATCCTACACCTTACACATCATA	407	MGPLSAPPCTEHIKWKGLLVT ASLLNFWNLPTTAQVTIEAQP PKVSEGKDVLLLVHNLPQNLT GYIWYKGQIRDLYHYITSYVVD GQIIIYGPAYSGRETAYSNASL LIQNVTREDAGSYTLHIIKRGD GTRGVTGYFTFTLYLETPKPSI SSSNLNPREAMETVILTCDPE TPDTSYQWWMNGQSLPMTH RFQLSETNRTLFLFGVTKYTA GPYECEIRNSGSASRSDPVTL NLLHGPDLPRIHPSYTNYRSG

				AAGCGAGGTGATGGGACTAGAGGAGTAACT GGATATTTCACCTTCACCTTATACCTGGAGAC TCCCAAGCCCTCCATCTCCAGCAGCAACTTA AACCCCAGGGAGGCCATGGAAACTGTGATCT TAACCTGTGATCCTGAGACTCCGGACACAAG CTACCAGTGGTGGATGAATGGTCAGAGCCTC CCTATGACTCATAGGTTTCAGCTGTCCGAAA CCAACAGGACCCTCTTTCTATTTGGTGTCACA AAGTATACTGCAGGACCCTATGAATGTGAAAT ACGGAACTCAGGGAGTGCCAGCCGCAGTGA CCCAGTCACCCTGAATCTCCTCCATGGTCCA GACCTCCCCAGAATTCACCCTTCATACACCA ATTACCGTTCAGGAGATAACCTCTACTTGTCT TGCTTCGCGAACTCTAACCCACCGGCACAGT ATTCTTGGACAATTAATGGGAAGTTTCAGCAA TCAGGACAAAATCTGTTTATCCCCCAAATTAC TACAAAGCATAGCGGGCTCTATGTTTGCTCT GTTCGTAACTCAGCCACTGGGCAGGAAAGCT CCACATCGTTGACAGTCAAAGTCTCTGCTTCT ACAAGAATAGGACTTCTTCCTCTCCTTAATCC AACATAG		DNLYLSCFANSNPPAQYSWTI NGKFQQSGQNLFIPQITTKHS GLYVCSVRNSATGQESSTSLT VKVSASTRIGLLPLLNPT*
Shigella ospG	7	prey67327	207	GCAGGCTTTGAACTTTACCCGTTTTCTTGACC AGTCAGGACCCCCATCTGGGGATGTGAATTC CCTTGATAAGAAGTTGGTGCTGGCATTCAGG CACCTGAAGCTGCCCACGGAGTGGAATGTAT TGGGGACAGATCAGAGTTTGCATGATGCTGG CCCGCGAGAGACATTGATGCATTTTGCTGTG CGGCTGGGACTGCTGAGGTTGACGTGGTTC CTGTTGCAGAAGCCAGGTGGCCGCAGAGCT CTCAGTATCCACAACCAGGAAGGGGCGACG CCTGTGAGCTTGGCCTTGGAGCGAGGCTATC ACAAGCTGCACCAGCTTCTAACCGAGGAGAA TGCTGGAGAACCAGACTCCTGGAGCAGTTTA TCCTATGAAATACCGTATGGAGACTGTTCTGT GAGGCATCATCGAGAGTTGGACATCTATACA	408	QALNFTRFLDQSGPPSGDVN SLDKKLVLAFRHLKLPTEWNV LGTDQSLHDAGPRETLMHFAV RLGLLRLTWFLLQKPGGRRAL SIHNQEGATPVSLALERGYHK LHQLLTEENAGEPDSWSSLSY EIPYGDCSVRHHRELDIYTLTS ESDSHHEHPFPGDGCTGPIFK LMNIQQQLMKTNLKQMDSLM PLMMTAQDPSSAPETDGQFL PCAPEPTDPQRLSSSEETEST QCCPGS

				TTAACCTCTGAGTCTGATTCACATCATGAACA CCCATTTCCTGGAGACGGTTGCACTGGACCA ATTTTTAAACTTATGAACATCCAACAGCAACT AATGAAAACAAACCTCAAGCAGATGGACAGT CTTATGCCCTTAATGATGACAGCACAGGATC CTTCCAGTGCCCCAGAGACAGATGGCCAGTT TCTTCCCTGTGCACCGGAGCCCACGGACCCT CAGCGACTTTCTTCTTCTGAAGAGACTGAGA GCACTCAGTGCTGCCCAGGGAGCCC		
Shigella ospG	7	prey412	208	GAGCATTGCACCCAAAACTACCCGGGTGACA TACCCAGCCAAAGCCAAGGGCACATTCATCG CAGACAGCCACCAGAACTTCGCCTTGTTCTT CCAGCTGGTAGATATGAACACTGGTGCTGAA CTCACTCCTCACCAGACATTTGTCCGACTCC ATAACCAGAAGACTGGCCAGGAAGTGGTGTT TGTTGCCGAGCCAGACAACAAGAACGTGTAC AAGTTTGAACTGGATACCTCTGAAAGAAAGAT TGAATTTGACTCTGCCTCTGGCACCTACACTC TCTACTTAATCATTGGAGATGCCACTTTGAAG AACCCAATCCTCTGGAATGTGGCTGATGTGG TCATCAAGTTCCCTGAGGAAGAAGCTCCCTC GACTGTCTTGTCCCAGAACCTTTTCACTCCAA AACAGGAAATTCAGCACCTGTTCCGCGAGCC TGAGAAGAGGCCCCCCACCG	409	SIAPKTTRVTYPAKAKGTFIAD SHQNFALFFQLVDMNTGAELT PHQTFVRLHNQKTGQEVVFV AEPDNKNVYKFELDTSERKIEF DSASGTYTLYLIIGDATLKNPIL WNVADVVIKFPEEEAPSTVLS QNLFTPKQEIQHLFREPEKRP PT
Shigella ospG	7	prey50598	209	CCTCCGTGTCCGCAGCCTGCCCGGAGAGGA CCTGAGGGCCCGTGTTAGCTACAGGCTGCT GGGGGTCATCTCACTGCTGCACCTGGTGCTG TCCATGGGGCTGCAGCTGTACGGTTTCAGGC AGCGGCAGCGAGCCAGGAAGGAGTGGAGGC TGCACCGCGGCCTGTCTCACCGCAGGGCCT CCTTGGAGGAGAGAGCCGTTTCCAGAAACCC CCTGTGCACCCTGTGCCTGGAGGAGCGCAG GCACCCAACAGCCACGCCCTGCGGCCACCT GTTCTGCTGGGAGTGCATCACCGCGTGGTG CAGCAGCAAGGCGGAGTGTCCCCTCTGCCG	410	LRVRSLPGEDLRARVSYRLLG VISLLHLVLSMGLQLYGFRQR QRARKEWRLHRGLSHRRASL EERAVSRNPLCTLCLEERRHP TATPCGHLFCWECITAWCSSK AECPLCREKFPPQKLIYLRHY R*

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				GGAGAAGTTCCCTCCCCAGAAGCTCATCTAC CTTCGGCACTACCGCTGA		
Shigella ospG	7	prey67364	210	TTATTAAATGAAACAACAGTGGAAATATAGCC AGACCTGACTAACCTTGCCTGTATTTTCTTGT AGGCAGGAGAAAATCAGAGGCATCAAGATCT GGTAGAAGGGCCGGTCTGCTGTTTAACACAT ACCAGCAGACAGGTCCCACGTGGGAGGCAC CACAGACCTTTAAGATAGGGTGAAGCCTTGA TAGAAGGAGAAACAGAAGCTGCCCACTGTCT TTACTTAGAAGTGGAGAACATGGNATTCTGTA TTTATTTATGTTGACTGCGCANCTTTACNTTT NTAAACC	411	LLNETTVEI*PDLTNLACIFL*AG ENQRHQDLVEGPVCCLTHTS RQVPRGRHHRPLR*GEALIEG ETEAAHCLYLEVENMXFCIYLC *LRXFTFXN
Shigella ospG	7	prey67367	211	ATCCAGCAAAACCGCTGCTAAATTGTCAACTA GTGCTAAAAGAATTCAGAAGGAACTTGCAGA AATCACATTGGACCCTCCTCCCAACTGTAGT GCTGGACCCAAAGGAGACAACATTTATGAAT GGAGGTCAACTATATTGGGACCCCCAGGATC TGTCTATGAAGGAGGGGTGTTCTTTCTTGAC ATTACCTTTTCACCAGACTATCCGTTTAAACC CCCTAAGGTTACCTTCCGAACAAGAATCTATC ACTGTAATATTAACAGCCAAGGTGTGATCTGT CTGGACATCTTAAAGGACAACTGGAGTCCGG CTTTAACTATTTCTAAAGTTCTCCTCTCCATCT GCTCACTTCTTACAGATTGCAACCCTGCTGA CCCTCTGGTGGGCAGCATCGCCACACAGTAC ATGACCAACAGAGCAGAGCATGACCGGATG GCCAGACAGTGGACCAAGCGGTACGCCACA TAG	412	SSKTAAKLSTSAKRIQKELAEI TLDPPPNCSAGPKGDNIYEWR STILGPPGSVYEGGVFFLDITF SPDYPFKPPKVTFRTRIYHCNI NSQGVICLDILKDNWSPALTIS KVLLSICSLLTDCNPADPLVGS IATQYMTNRAEHDRMARQWT KRYAT*
Shigella ospG	7	prey67369	212	GTTGCAATGAGCCGAGATGGTGCCACTCATG TATATGAAACTCATCCATGGTGGAACTTTTTT CAGATGTGTGAGCTCTGTAACCTTTTAAGGTC CTGGAAACATAGTATTTTTAAAAGTACACTGT ATATCTCTATCAGGAAATTAAAATTGTTAGCTT ATATCTACATTTCAATAAAATGTAAGCCTGTT GCTATGTTGATAGCAAATCTGTTTAACTTACT	413	VAMSRDGATHVYETHPWWNF FQMCELCNLLRSWKHSIFKST LYISIRKLKLLAYIYISIKCKPVA MLIANLFNLLVIRLLRTSMNW* KEKIYETXLN

				GGTCATTAGGCTGTTACGTACGTCAATGAAC TGGTGAAAGGAGAAAATTTATGAAACATANCT CAAC		
Shigella ospG	7	prey67372	213	GAGATAAGGTGATGTCAGAGTTTAATAACAAC TTCCGGCAGCAGATGGAGAATTACCCGAAAA ACAACCACACTGCTTCGATCCTGGACAGGAT GCAGGCAGATTTTAAGTGCTGTGGGGCTGCT AACTACACAGATTGGGAGAAAATCCCTTCCAT GTCGAAGAACCGAGTCCCCGACTCCTGCTGC ATTAATGTTACTGTGGGCTGTGGGATTAATTT CAACGAGAAGGCGATCCATAAGGAGGGCTG TGTGGAGAAGATTGGGGGCTGGCTGAGGAA AAATGTGCTGGTGGTAGCTGCAGCAGCCCTT GGAATTGCTTTTGTCGAGGTTTTGGGAATTGT CTTTGCCTGCTGCCTCGTGAAGAGTATCAGA AGTGGCTACGAGGTGATGTAG	414	DKVMSEFNNNFRQQMENYPK NNHTASILDRMQADFKCCGAA NYTDWEKIPSMSKNRVPDSC CINVTVGCGINFNEKAIHKEGC VEKIGGWLRKNVLVVAAAALGI AFVEVLGIVFACCLVKSIRSGY EVM*
Shigella ospG	7	prey67379	214	NAAANCNGTCTTAATCGCCACNTACTTCTCCN NNNCACATGTAAAACATANTTGNTGTTNNGG GCCACNGNNGGCTGTNANTACTGNATTTNAN ATNNNTATTGGNNNCTNGCACATGTTAAAGG NNNCACAGTTTCTGNACTCTAGGAGANATTC TTGNCCTGTTAGNGTNAAAGTACTTTTCACTN GATAAGCTATGNTGACGTTNCTTATNAGAACN GNNNTTANTGNTGANTGCATGATNTCCATTCA TNATGTATTTGCCATGAGNNGCTAATTNNCAA NACGTGTCGTAATGAGAATAA	415	XXXLNRHXLLXXTCKTXLXXX ATXGCXYXIXXXYWXLAHVKG XTVSXL*EXFLXC*XXSTFHXIS YXDVXYXNXXXX*XHDXHSXC ICHEXLIXXTCRNEN
Shigella ospG	7	prey67381	215	ATGACAGTCCAAGCACTAGTGGAGGAAGTTC CGATGGAGATCAACGTGAAAGTGTTCAGCAA GAACCAGAAAGAGAACAAGTTCAGCCCAAGA AAAAGGAGGGAAAAATATCCAGCAAAACCGC TGCTAAATTGTCAACTAGTGCTAAAAGAATTC AGAAGGAACTTGCAGAAATCACATTGGACCC TCCTCCCAACTGTAGTGCTGGACCCAAAGGA GACAACATTTATGAATGGAGGTCAACTATATT GGGACCCCCAGGATCTGTCTATGAAGGAGG	416	MTVQALVEEVPMEINVKVFSK NQKENKFSPRKRREKYPAKPL LNCQLVLKEFRRNLQKSHWTL LPTVVLDPKETTFMNGGQLY WDPQDLSMKEGCSFLTLPFH QTIRLNPLRLPSEQESITVILTA KV*

				GGTGTTCTTTCTTGACATTACCTTTTCACCAG ACTATCCGTTTAAACCCCCTAAGGTTACCTTC CGAACAAGAATCTATCACTGTAATATTAACAG CCAAGGTGTGA		

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